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# China Report

ECONOMIC AFFAIRS

No. 143

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16 June 1981

CHINA REPORT  
ECONOMIC AFFAIRS

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## NATIONAL POLICY AND ISSUES

### CALL TO BALANCE COMMODITY SUPPLY, DEMAND

HK230724 Beijing JINGJI YANJIU [ECONOMIC RESEARCH] in Chinese No 4, 20 Apr 81  
pp 17-21

[Article by Wan Dianwu [8001 0368 2976] of the Commercial Economic Research Institute of the Ministry of Commerce: "Readjust Proportions To Balance Commodity Supply and Demand"]

[Text] In implementing the principle of readjusting, restructuring, rectifying and improving the national economy we have recalled our economic work over the past 31 years and particularly our experiences in commercial work, and consequently have come to realize that in order to balance commodity supply and social purchasing power it is imperative to properly readjust some important proportions of the whole national economy. But some comrades have held different views on whether it is necessary to balance commodity supply and demand and whether it is within our reach to do so. The following are my premature views on this question, and I am confident that once this problem is correctly solved it will be of significance in implementing the readjustment principle of the national economy, in working out long-term economic planning as well as in promoting unity and stability.

#### (I) The Key Points for Balancing Commodity Supply and Demand

Taken as a whole, after the founding of new China and from the point of view of overall planning, there were 18 years in which commodity supply fell short of social purchasing power, and this means that commodities were in short supply. After measures were taken to increase production, make full use of reserved stocks and cut down the purchasing power of social groups and make up for the difference between commodity supply and demand, there were still 9 years in which year-end purchasing power exceeded the growth of commodity stock, and this means that the situations in which commodities were in short supply still existed. How could commodities be in short supply? In general, the short supply of commodities is expressed in the following three ways. First, a product or some products are adequate but their varieties and specifications fail to meet demand. Because of improper regional transfer of goods, some products are overstocked in some places and at the same time they are in short supply in other places and because of improper transfer of goods unbalanced supply emerges in brisk and slow seasons. But these are temporary phenomena that are mostly caused by objective production conditions and by shortcomings in our economic work.

Second, the quantity of some products is inadequate throughout the country, such as grain. The main reason for this problem is that grain production develops slowly while the growth of population is so fast. Third, a greater number of commodities are in short supply for a continuous long period, and it is very common for people to have to stand in long lines to purchase such products. These situations include the question of balances in quantity, varieties and seasons in the supply and demand of commodities. These balances are expressed in different forms and they require different methods to be resolved. But they are all governed by the situations of the balance between the quantity of the commodities supplied and social purchasing power. Therefore, when commodity supply is in balance with demand, it is necessary for us to find the reason from the standpoint of the overall balance of various national economic proportions.

In economic work, the general situation of the supply and demand of commodities is usually estimated through calculating the balance between and quantity of the available products and social purchasing power. That is to say, various economic data are used in calculating the total amount of money in society that will be used in purchasing commodities, the total amount of commodities that are to be supplied by various departments and the total amount of commodities that are needed for both supply and demand so as to determine if all these are balanced. If the supply of commodities is smaller than the demand, this situation is termed a difference between commodity "supply" and "demand," and there will appear various phenomena of short supply of commodities. Social purchasing power is mainly comprised of wages of workers and staff and cash income of peasants from selling agricultural and sideline products and these two aspects in general make up about 80 percent of social purchasing power. Therefore the strength of social purchasing power is mainly determined by state planning for labor wages and for purchasing agricultural and sideline products. Some items of financial revenues and expenditures and those of bank credits also comprise commodity purchasing power. The scale of the supply of commodities is mainly determined by the size and pace of the development of industrial and agricultural production, particularly by the arrangement of the proportions of agriculture and industry and of light industry and heavy industry. That is to say, it depends on the implementation of the principles for agriculture, light industry and heavy industry. Therefore, whether commodity supply is in balance with demand is determined by the various proportions of the national economy. If we slow down our work of overall balancing of the national economy, accumulation will be out of proportion with consumption and agriculture, light industry and heavy industry and financial revenues and expenditures as well as revenues and expenditures of bank cash will become unbalanced, and all these will eventually cause short supply of commodities.

During the 10 years after 1966, Lin Biao and the "gang of four" were running amuck and they talked nonsense that "demand is planning." They also termed "gaps" and "differences" as active balances to confuse various national economic proportions and dash the national economy onto the brink of collapse. This has been the basic reason for short supply of commodities over the past few years. In addition, we made some mistakes in our economic work and particularly in overall balancing in national economic planning. This also caused short supply of commodities. In a move to repay the "debts" over the past many years, we recruited 9,030,000 workers and staff in 1979, increased the salaries of

40 percent of the workers and staff and increased the purchasing prices of some agricultural products. As a result, the purchasing power in that year increased by a record of 22.5 billion yuan. In addition, thanks to the measures taken by the state, our agriculture was rehabilitated and able to develop quite rapidly, light industrial output was 9.6 percent higher than the previous year, output of major light industrial products increased considerably and the quality and varieties of many products were also markedly improved. All this helped to alleviate the contradictions between commodity supply and demand. But there is still a fairly big gap between commodity supply and social purchasing power and the short supply of commodities cannot be resolved immediately. Over the past many years when there was a gap between commodity supply and demand, some commercial [enterprises were] conservative and were not willing to sell, each level retained some products for reserves and was concerned only with its own business. Thus, providing poor services, they aggravated the short supply of commodities and contradiction.

It can be clearly seen from analyzing the reason for short supply of commodities that in socialist society the short supply of commodities is not an objective, necessary phenomenon; it is a mistake in economic work. When commodities are in short supply, we are still able to balance commodity supply and demand as long as we conscientiously readjust some important national economic proportions and particularly the proportions of accumulation and consumption and of agriculture, light industry and heavy industry. During the Second Five-Year Plan, there appeared a serious short supply of commodities because of an unbalanced national economy and for other reasons. Measures were then taken in 1960 to decrease the accumulation rate, curtail the capital construction front, implement correct rural agricultural policies to restore production in rural areas, and readjust the proportions of agriculture, light industry and heavy industry. Thanks to these measures, we won a big victory in 1963 in our work of readjusting the economy and eventually the market situation also improved. In 1979, the readjustment of important national economic proportions and various positive measures were followed by the alleviation of contradictions between commodity supply and demand. Practice proved that short supply of commodities in our country can be resolved and that conscientious readjustment of related national economic proportions is vital in balancing commodity supply and demand.

## (II) The Balance of Commodity Supply and Demand Is an Objective Need of the Law of Commodity Supply and Demand

The contradiction between commodity supply and demand is a reflection of the contradiction between production and consumption in the sector of commodity circulation. But does this contradiction have its own inner law? Engels said: "Once trading of products departs from production and becomes independent, it will move along in its own direction. Generally speaking, this movement is governed by the movement of production; but under separate condition and within general subordinate relations, it moves along with the innate law of these new factors. This movement has its own stages, and it plays its role in the movement of production." ("Letter to (Kang Shimite) [1660 2457 4717 3676] (27 October 1980 [sic])," "Selected Works of Marx and Engels," Vol 4, p 481) Here Engels clearly pointed out that there is "innate law" in the sector of commodity circulation. This scientific concept will enlighten us in studying this question. Of course, it is

very important for us to analyze the contradictions between commodity supply and demand by resorting to general economic laws such as the law of value and the law of planned and proportionate development. But we cannot just study "general features," but on the contrary, we must probe into "individual features" of the contradiction between commodity supply and demand and find out the law of this contradiction. The sector of commodity circulation has its own "innate laws" such as the law of exchange at equal value, the law of voluntary concession and the law of commodity supply and demand that is important in this category of laws.

After all, what is the law of commodity supply and demand? Briefly speaking, it is a movement of contradiction constantly tending toward balance between the supply and demand of commodities. Supply and demand are contradictory but they promote and condition each other. They have their own tendencies of development that are similar to each other. Why did we say that the relationship between commodity supply and demand is a movement of contradiction that constantly tends toward balance? First, the relation between commodity supply and demand is a reflection of the relation between production and consumption in the circulation sector. The purpose of production is consumption. But excessive production will be too much for consumption, and provided that consumption is expanded, production has to be temporarily suspended or cut down. Too little production will not be enough to meet consumption and provided that measures are taken to save consumption, production has to be increased. Thus production and consumption condition each other, and this relationship constitutes an objective foundation for the constant tendency toward balance between commodity supply and demand. Furthermore, new consumption by mankind pushes people to create and invent and use new sciences and technology to constantly develop production. At the same time, the constant development of production provides mankind with new consumption resources. Production and consumption promote each other. In socialist society, basic economic law demands that increasing demand must be met through constant increases in production and this is the main reason for the natural tendency toward balance between commodity supply and demand. Second, human society turns out various products through proportionately distributing labor power so that various products in the main accord with the structure of consumption. In socialist society, the planned and proportionate law demands that the commodity structure accord with the consumption structure and that commodity supply be balanced with the capacity to pay. Third, the features of commodities determine that commodity supply and demand must constantly tend toward balance. Commodities are produced for sale quickly. But when sales are slow, production will decrease and when the commodities are unsalable, production will stop. In socialist society, the law of value still regulates commodity production and circulation. Whether commodity production is increased or decreased and whether commodity circulation is expanded are closely related to the situation of prices and the amount of profits. The state is in a position to basically know in advance the social needs and production volume of various important commodities and can take measures to regulate these products through such economic levers as value, tax and profits. If because of mistakes in economic work there appears a "difference" or "gap" between commodity supply and demand during a planned period, the actual economic activities in this year are always aimed at constantly balancing "supply" and "demand." As we come to understand this tendency, we will be conscientious in using the law of commodity supply and demand to balance in advance and in a planned way commodity supply and demand. By doing

so we will display an advantageous role in developing the national economy and improving people's living standard. If we allow the "difference" to exist, we will be compelled to resort to increasing prices and other factors to balance commodity supply and demand. As a result, we will not only fail to balance commodity supply and demand but will also ruin the national economy and affect people's lives. These two different methods bring about quite different results. The former is healthy while the latter is unhealthy. But there is no doubt that both tend to develop toward achieving balance.

The law of commodity supply and demand is conditioned by general economic laws but it has its own features. It plays a broad, clear and profound role in production, circulation and consumption. The activities of commodity supply and demand link tens of thousands of industrial and agricultural production enterprises, tens of thousands of households and tens of millions of consumers. During the past several years we violated the law of commodity supply and demand, resulting in serious shortages of commodities and tight market supply and seriously affecting production and consumption. Under the socialist system, the law of commodity supply and demand is expressed in continuous growth of commodity supply and demand, short supply of commodities appears, develops and disappears in stages. The situation of commodities being in serious short supply for a long period will cause a tense psychological situation requiring a long period before the situation relaxes and disappears. These features tell us that we must be very cautious in dealing with the law of commodity supply and demand. The nature of the proletarian party and socialist state demands that we be responsible for and wholeheartedly serve the people. We must also spare no efforts to avoid violating the law of commodity supply and demand. If we carry out production blindly, we will cause enormous overstocking of goods and wastefulness and we must in no way do this. On the other hand, if we blindly raise social purchasing power and neglect increasing commodity production, the commodities will be in short supply for a long period and this situation cannot be abolished at once. To solve this problem, a process is needed in readjusting the economy and developing production. Under this situation it is useless for us to become impatient nor will it do any good for us to have grievances.

It was common in the past few years to deny the law of commodity supply and insist on using "imbalance is absolute" as theoretical grounds to explain the short supply of commodities. In our opinion, "imbalance is absolute" mainly refers to the fact that the original balance cannot remain unchanged; it will be constantly disturbed. Under socialist conditions in which the means of production belong to public ownership, it is possible and necessary to balance commodity supply and demand in a planned way. That is to say, the state that is in a position to grasp the economic lifeline and to take major economic measures can carry out economic planning and through meticulous study and investigations, conscientiously use economic law and readjust in a planned way various major proportions so as to balance commodity supply and demand. If we regard "imbalance is absolute" as meaning it is not necessary to have a balance, as permitting the difference in commodity supply and demand to be maintained during a long period and letting a big "gap" exist in the market, all this means nothing but a situation without planning and policies, let alone a socialist planned economy.

Basing themselves on the fact that commodities have long been in short supply in our country, some comrades have held that short supply of commodities is the socialist law of commodity supply and demand. But during the 7 to 8 years following the founding of new China and during the 3 to 4 years in the mid-1960's we were able to balance in a planned way and in advance the volume of commodities and social purchasing power. Our markets were brisk, prices were stable and trading in commercial sector was thriving. The state treasury was normal and the people's living standard was improving. Practice during these years proves that we are entirely in a position to balance in a planned way the volume of commodities and social purchasing power early in each year. The so-called law of short supply of commodities in fact did not exist. Practice over the past few years also proves that as long as we are able to properly maintain major national economic proportions we will be able to balance commodity supply and demand. In this respect, particular attention must be paid to how to keep the correct proportions between accumulation and consumption. The average accumulation rate during the First Five-Year Plan was 24.2 percent and it accorded fairly well with our actual conditions and played a decisive role in balancing financial revenues and expenditures, bank credit and supply of goods and materials. Thus, according to our experiences, it is imperative to maintain these balances, give priority to production and then to capital construction and to arrange planning respectively for agriculture, light industry and heavy industry. In the commercial sector, this principle is expressed in balancing commodity supply and demand. One of our important goals in the current national economic readjustment is to gradually readjust over several years the too high accumulation rate of the past to about 25 percent. We must also constantly readjust the proportionate relations between agriculture and industry and between light industry and heavy industry. Countless facts have proven and will continue to prove that the socialist law of commodity supply and demand means the balance of commodity supply and demand and not short supply of commodities.

Some comrades have said: "Is it necessary for us to talk about the difference between supply and demand each year since we are finally able to realize a balance?" These comrades neglect the danger of short supply of commodities and they are satisfied with maintaining a gap in planning and the appearance of balance in a year. They have not concretely analyzed such a balance which is realized through important measures by the state to make up for the difference. In some years, balances were realized through measures that harmed part of the interests of the state and the people. Under the conditions in which commodities are in short supply, the people who have money cannot buy the commodities they want. Consequently, prices will soar. This means that the currency is devalued and the actual salaries of workers will decrease. When commodities are in short supply, an important factor is often forcible increase of prices in order to balance supply and demand and offset part of a big difference. Under this situation, the law of commodity supply and demand still displays its role in "tending toward balance of supply and demand," but this balance is realized by relying on harming the interests of the people and on currency devaluation. If this bitter lesson in balancing "differences" is considered as a pretext for retaining a "gap" in planning, it means we acknowledge that we economic workers are mediocre persons who have "usurped positions to eat the bread of idleness."

All the views mentioned above in fact deny from different angles the law of tendency toward balance of commodity supply and demand and actually acknowledge that short supply of commodities is inevitable. Theoretically these views are groundless and harmful to economic work. We must seek truth from facts and acknowledge that there exists the law of tendency toward balance of commodity supply and demand, and we must consciously balance in a planned way commodity supply and demand so that our national economy will be able to develop proportionately and constantly. If we deny the law of commodity supply and demand, maintain a "difference" in planning supply and demand and regard "gaps" in the market as natural, our country and people will continue to suffer losses.

### (III) Strive To Balance Commodity Supply and Demand

What should we do to balance commodity supply and demand and avoid short supply of commodities? Of the past 31 years, some were characterized by balances in a planned way between the volume of commodities and social purchasing power. In some years, commodities were in short supply while in other years measures were taken to make up for differences and turn imbalances into balances. In order to balance commodity supply and demand in a planned way it is imperative to systematically sum up our experiences and lessons and do a good job in the following:

First, like other important goals of national economic planning, planning for the goal of balancing commodity supply and demand is also important, and must also be included in long-term, annual national economic planning. Close attention must be paid to balancing all these goals and planning. In comparing and trial-calculating important goals such as the growth of agriculture, the amount of investments in capital construction and the proportions between accumulation and consumption, measures must also be taken to trial-calculate the volume of commodities and social purchasing power so that we will be able to give overall considerations and make arrangements for the planning of commodity circulation which is an important part of national economic planning. If, according to a certain type of planning, the difference between commodity supply and demand is very big, this planning cannot be implemented even if the accumulation rate, the growth of construction and the growth of production are high. It is because of this planning that we will have experiences similar to those of the Second Five-Year Plan. That is to say, according to this planning, there will be "more haste with less speed" and market situations as well as people's lives can in no way be stable.

Increases in the number of workers, increase in salaries and readjustment in the prices of agricultural products must be determined by the pace in the development of agriculture, industry and light industry, and all this cannot be completed in a year. Thus in working out long-term, annual planning for the national economy we must proceed from reality and carry out this work according to our capability so that we will be able to realize an overall balance. We must in no way repeat the past mistakes, nor can we lopsidedly seek a high accumulation rate and large-scale capital construction, give priority to heavy industry and neglect balancing the commodity supply and demand.

Second, we must resolutely implement the principle of readjusting, restructuring, rectifying and developing the national economy. In carrying out this principle, we must readjust disproportionate market situations that include balancing commodity supply and demand. Great achievements have been made in the past year

in carrying out this principle and the pork and eggs that have been in short supply for more than 10 years are now supplied almost without limit throughout the country. Trading in free markets is brisk, with prices tending to decrease. The resources of many native products such as dried and fresh fruits and sundries have increased. The output of light industrial products and some durable consumer goods that are in short supply must be increased so that the supply of these goods can be improved. But because of the repayment of "debts" last year and this year, the social purchasing power has increased quite rapidly, and consequently there is still a difference between commodity supply and demand. Some commodities are still in short supply. But all these are difficulties that have cropped up while we are making progress. Therefore, once we are resolute in implementing the economic readjustment principle and the party's policies and measures and particularly the policies for developing the rural economy, and once we strive to increase agricultural and light industrial products and durable consumer goods, we will be able to balance commodity supply and demand over a not too long period so that there will appear a new situation in which production will constantly increase and rural and urban markets will have abundant commodities to supply at stable prices to the delight of the people.

Third, in doing a good job in the commercial sector it is necessary to constantly improve commodity supply and services. There is no doubt that whether commodity supply and demand are balanced is a reflection in the commodity circulation sector of the contradiction between production and consumption, and the key in balancing commodity supply and demand is realizing an overall balance of the national economy. But we must in no way regard commercial work itself as helpless in improving the situation of short supply of commodities. Whether the structure of commodities is rational, the quality is good, the varieties accord with demand, commodities are supplied promptly, the distribution of commodities among the cities and the countryside and among regions is proper, and whether consumers are satisfied with the attitude and quality of services are very important for balancing commodity supply and demand. If we are able to do a good job in this respect, we will be able to lessen the various contradictions that are caused by short supply of commodities. Therefore, we must strive to enable commerce to play its role of "bridge" and "ties." We must also be resolute in implementing the state's various policies and measures that are aimed at making up for the difference between commodity supply and demand, serve production well and help agriculture and industry produce more goods that are in demand. We must also work hard in smoothing out and expanding various channels, display the initiative of the collective and individual commerce and enable and develop various types of ownership with state ownership as the main type so that everyone will be able to display his talent and all things will serve their purpose properly. Each commercial enterprise must step up studying economic results, constantly improve management, speed up the circulation of commodities, step up the work of protecting commodities to decrease damage and save on expenses in commodity circulation so that we will be able to lighten the burden of the masses and increase state accumulation.

In short, we must fully display the initiative of a socialist system and planned economy, conscientiously readjust economic proportions, follow the law of commodity supply and demand, work hard to balance commodity supply and demand and do a good job in market supply so that we will make contributions to the four modernizations.

## NATIONAL POLICY AND ISSUES

### BANYUETAN DISCUSSES TAKING NEW ECONOMIC PATH

HK060848 Beijing BANYUETAN in Chinese No 9, 10 May 81 pp 3-5

[Article by Xue Zhongxin (6585 0022 2450): "New Path to Develop the Economy of Our Country"]

[Text] Question: What is the new path to develop the economy of our country?

Answer: What path we should take from now on to develop the economy of our country is a problem of developing economic strategy. We call it new because it will be different from past strategy. Our economic task has been under the influence of the erroneous "leftist" line for a long period of time. Being overanxious for quick results, excessive concentration on high targets and high growing speed, putting undue emphasis on the development of heavy industry, neglecting agriculture and light industry, all these practices led to the lopsided development of economic structure. The old path needed large amounts of investment and high consumption. Besides, it was slow in increasing the wealth of society and did not suit the conditions of our country. Therefore, we must not follow this path any longer.

The new path we take should be one which increases economic results but requires less investment. Although the accumulation rate is not that high, the new path will produce economic results faster, thus ensuring that our economy develops harmoniously and grows steadily so that our people will receive more material benefits and the superior features of socialism will be allowed to function more fully.

Question: How can we increase economic results?

Answer: The first step is readjustment and the second is reform. At present, we should concentrate on readjustment, and reform must be subordinate to readjustment. We should rationally change the economic structure, the administrative system and enterprise organization by carrying out readjustment and reform based on maintaining a stable economy.

Question: What tasks should we concentrate on at present to fulfill the "three rational changes"?

Answer: At present, we should concentrate on the following tasks to actively promote the production of consumer goods to meet the demands of domestic and foreign markets and the needs of urban and rural people. Carry out industrial restructuring and enterprise integration by centering on key cities and famous brand products, while eliminating intersector and inter-regional barriers.

2. Readjust and reform production within each sector, according to the requirement that heavy industry should serve the people's livelihood, the technical reform of the national economy, and the construction of national defense.
3. Utilize existing enterprises, carry out technical reform in a planned way on the basis of reform and integration.
4. Conscientiously restructure enterprises and improve enterprise management, improve quality and lower consumption, and pay attention to economic results.
5. Actively strengthen the construction of energy industry. Make efforts to raise energy production while trying every means to save energy, especially fuel oil.

Question: What are our industries' prospects if we follow this new path?

Answer: By following the new path, our industries will be able to shift step by step from a "heavy structure" to a "light structure"; from the "small and complete," "big and complete" model to the economical and rational socialized production which operates through coordination among specialized departments; from a situation of high consumption, inferior quality, poor results to a situation where production accords with market demands and economic results is given due attention.

Question: What is the difference between the new path and the old path?

Answer: Marx said: "The yearly expansion of production is due to two causes: First, the steady increase of capital invested in production; second, continuous improvement in the efficient use of capital." However, over a long period of time, we have only paid attention to the steady increase of investments while neglecting the continuous improvement in the efficient use of capital. In the past, the increase of the total output value and financial income was mainly due to large amounts of investments, the expansion of the scale of capital construction, and the construction of new plants. We always asked for funds from the state to build new plants and to expand the scale of production whenever we were to develop production.

From now on, the national economy will not be developed mainly by expanding the scale of capital construction but by utilizing the production capacity of existing enterprises. In order to improve economic results, we must shift from an economic structure mainly depending on extension to one mainly depending on intension, from an extensive operation to an intensive operation. In agriculture, we have been mainly depending on the intensive and meticulous farming by 800 million peasants, the cultivating of the existing arable land to increase the production.

Likewise in industry, we shall adopt a strategy which will enable the increase of material wealth by intensive operation of existing enterprises and the labor power of 40 million workers.

Question: Are the conditions for such a path available?

Answer: The conditions for the path of increasing economic results are now available. In the 30 years' construction, the number of state-run industrial and communications enterprises in our country has increased to 370,000; the fixed capital and the circulating capital have accumulated to a few hundred billion yuan; the variety of enterprises is comparatively complete; moreover, there is a huge contingent of skilled workers and professional technical personnel. We can achieve comparatively great economic results with comparatively little capital and low consumption if we reasonably reorganize our existing enterprises and carry out technical restructuring.

Question: Why do we attach importance to the production of consumer goods in the economic restructuring?

Answer: The role that the production of consumer goods plays actually decides the path of the Chinese economy. For a long time, we maintained as our guideline that the only way to socialist industrialization was to give priority to the development of heavy industry. This was the guideline adopted by the Soviet Union under the specific condition of being surrounded by imperialist countries.

According to our conditions, our guideline of construction should have been different: The principle which takes steel as the key link and gives priority to the development of heavy industry must be changed, the development of the production of consumer goods must be emphasized now. This is the key step to rationalize the economic structure of our country. Developing the production of consumer goods can help to increase income, withdraw currency from circulation, enliven the market, stabilize prices, promote exports, save energy and utilize labor so that the national economy could be extricated from its predicament as soon as possible. To keep on satisfying the people's ever growing needs for food, clothing, housing, commodities, transportation and cultural activities and so on, is the purpose of socialist production and also the responsibility of the people's government.

Question: How can we overcome the malpractice of the "large canteen" and give full play to the enthusiasm and initiative of industrial and communications enterprises and their staff?

Answer: The most effective way is to implement the economic system of job responsibility in industrial and communications enterprises which is similar to the job responsibility system of the agricultural production responsibility systems in rural areas, so that the production level of an enterprise will be related to the income of the enterprise itself and of workers themselves. We should take the following measures step by step according to the circumstances in each industrial and communications enterprise.

1. Carry on the experiment of profit sharing in those selected enterprises where the experiment of expanding decisionmaking power is underway.
2. Carry out the policy of taking responsibility for reducing deficits or taking full responsibility for profits in those losing enterprises and low profit-making enterprises. They will not be subsidized for their losses but will be allowed to keep their profits.
3. Small enterprises should assume sole responsibility for their profits or losses step by step. Taxation will replace the practice of turning over profits to the state.
4. Carry out step by step in a planned way the policy of taking full responsibility for profits according to different sectors in large and medium-sized cities.
5. Insist on the socialist principle of distribution according to work. For example, implement the scheme of piece rate wage where possible. Overcome egalitarianism in implementing the policy on bonuses, and combine the awarding of bonuses with the responsibility system.

CSO: 4006/344

## ECONOMIC PLANNING

### PRC URGED TO EXERCISE UNIFIED MANAGEMENT OF RESOURCES

OW191121 Beijing XINHUA Domestic Service in Chinese 1231 GMT 18 May 81

[Excerpts] Beijing, 18 May (XINHUA)--Ma Shijun, Lu Baolin, Liu Jiankang and Xiong Yi, members of the Scientific Council of the Chinese Academy of Sciences, proposed that the state exercise unified management of the exploitation and utilization of natural resources and strengthen comprehensive scientific studies of the ecosystem so as to effectively maintain the ecological balance.

They made the proposal at the fourth session of the Scientific Council of the Chinese Academy of Sciences.

They proposed:

1. That the State Council set up a natural resources management commission, responsible for overall planning on large-area exploitation and utilization of land, rivers, lakes and seas, wild animal and plant resources and mineral resources, and promulgate and enforce a natural resources management law to put an end to the present state of administrative confusion with each department forming a system of its own;
2. That the State Scientific and Technological Commission strengthen coordination and administration of the state's major scientific research projects and eliminate the present drawbacks of scatteredness and repetition of scientific research subjects, lack of communications and the resultant waste in scientific manpower and funds;
3. That the Chinese Academy of Sciences set up a comprehensive scientific department (group), responsible for the planning, designing, examination and organization of the development of multiple-discipline studies; and
4. That the State Scientific and Technological Commission, the State Agricultural Commission, the Ministry of Education and the Chinese Academy of Sciences strengthen research and teaching work in the field of ecology, set up an ecological commission, design and coordinate in a well-planned way research on our country's agriculture, forestry, animal husbandry and water area ecosystem, draw up plans on protected natural areas, set up ecological specialties in key universities and colleges to train competent personnel, and so forth.

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## CLASSIFICATION, PROSPECTS OF OIL BASINS IN CHINA

Beijing SHIYOU XUEBAO [ACTA PETROLEI SINICA] in Chinese No 4, Oct 80 pp 1-17

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### [Text] Introduction

Covering 9.6 million square kilometers of land, China has a total of 4 million square kilometers of sedimentary rocks which are spread all over the country in hundreds of basins, and had developed from the Paleozoic to the Mesozoic. Oil and gas resources are found in strata of different ages; the oldest is the Sinian Suberathem, and the youngest is the Quaternary. Located under our country's vast expanse of sea area are more than 10 large and medium size sedimentary basins which, according to preliminary surveys, are endowed with basic geological conditions conducive to the development of large-scale oil and gas fields. In fact, oil and gas fields have already been found in the Bohai Bay, North Gulf (Gulf of Tong King) and South China Sea.

When did the basins take form? How did they evolve throughout the process of geological development? How did they influence the formation of oil and gas fields in the course of evolution? Which basins are more prospective in terms of oil and gas resources? In this article, the authors shall attempt to answer these questions from the plate tectonics point of view. But how to apply the young plate tectonics theory in the classification of the continental plate tectonics theory in the classification of the continental plate tectonics since the Paleozoic era? And how to use the plate tectonics theory as guidance in oil and gas exploratory work? These are questions which petroleum geologists both at home and abroad are trying to solve. Although this article may be superficial or full of loopholes, it is a bold attempt by the authors to answer the questions. The reader is welcome to point out mistakes and the authors welcome any criticisms.

### I. The Framework of China's Plate Tectonic Movements Since the Paleozoic

As the result of more than 10 years of research efforts, both Chinese and foreign scholars specializing in plate tectonics have found the following chief characteristics pertaining to the tectonic structure of the globe: (1) Continents generally have old continental nuclei which had formed in the Precambrian period (referred

to as old plates in this article); the crustal evolution since the Paleozoic era took place around the ancient continental nuclei; (2) In the course of interplate movements, the ancient oceanic crusts underwent continuous subduction while the continental crusts kept growing. There are two types of accretion along the convergent continental edge: the West Pacific type and the Andes type. (3) The plate boundaries are mainly based on the three forms of plate movement, i.e., plate accreting oceanic ridge, plate subduction trench, plate shearing transform fault. Moreover, the only relics of plate motion since the Paleozoic that have been found on the continents today are lithologic records of arc-trench systems formed in the process of plate subduction. Based on the preceding characteristics, our approach in classifying the Chinese continental plates since the Paleozoic is to combine the actual geological conditions of China with the presence of continental nuclei in plate evolution, the mode of crustal accretion and the form of plate motion.

Through comprehensive survey of the history of the tectonic development of the Chinese continent, it is found that for a long period of time, the Chinese continent has been surrounded by three tectonic units, i.e., the Siberian Plate in the north, the Indian Plate in the southwest, and the Pacific Plate in the east. In various periods of time, the Chinese continent was subjected to subduction compressive forces from the three plates in various forms of tectonic motions. The Chinese continent consists of three stable old plates (continental nuclei): the Tarim Old Plate in the west, the North China Ancient Plate in the east, and the Yangtze [Yangtse] Old Plate in the south, which were formed in the Precambrian period and have since stood rock-firm against the compressive thrusts from the three surrounding tectonic units, while combining the crustal substances produced in the course of compression. Thus, the three old plates have gradually expanded through aggradation towards the north, east and southwest, and, by the Himalayan period, they finally formed into the Chinese continent of today. The history of the development of the Chinese continent consists of compression and aggradation, recompression and reaggradation, which has not only greatly affected the progress of the tectonic growth of the Chinese continent, but also the formation of sedimentary basins and the distribution of oil and gas reservoirs in China. Based on the interplate motion since the Paleozoic and the development history of the Chinese continent, it is possible to classify five different and unique plates which are useful for the classification of prospective oil and gas basins, i.e., the North China Plate, the Tarim Plate, and Junggar-Songliao Plate, the Gansu-Qinghai-Xizang [Tibetan] Plate and the South China Plate. Based on the lithological formation, isotopic dating data, and the major structural deformation periods, we have plotted four plate tectonic schematic charts of China in the Variscian, Indosinian, Yanshanian and Himalayan periods (Figures 1-4). But owing to lack of paleomagnetic data, we have not been able to plot the paleogeographic positions of various plates in different periods of time. The charts merely reflect their correlated positions.

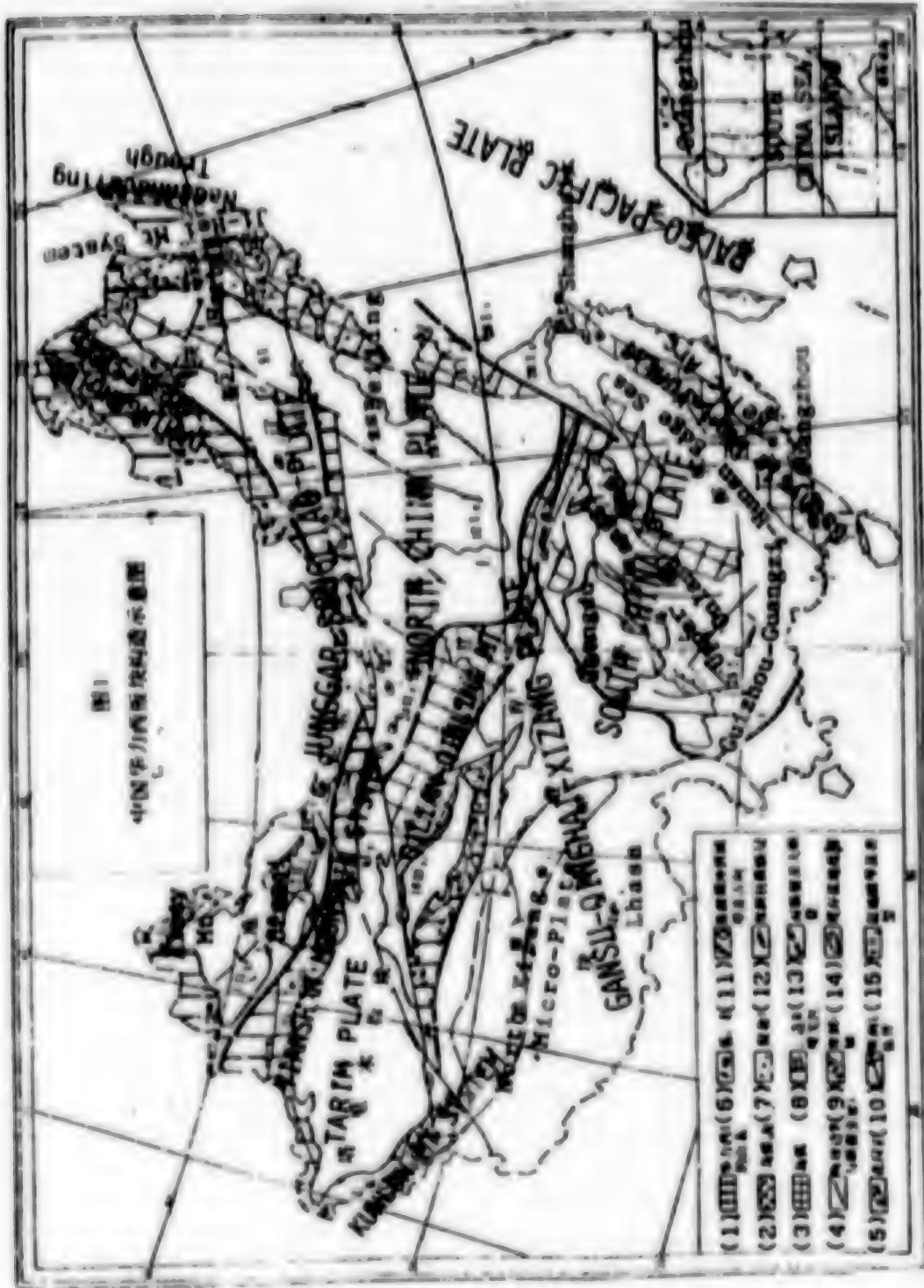


Figure 1. Schematic Tectonic Plate Map of China During Variscian Stage

**Key:**

- (1) mountain system formed in the Variscian stage
- (2) island arc, land
- (3) island arc
- (4) plate boundary (sometimes coinciding with fault)
- (5) granite
- (6) basic, ultrabasic rocks
- (7) melange
- (8) Permian basalt effusion zone
- (9) conjectured contracted trough axis
- (10) conjectured marginal sea expansion ridge
- (11) conjectured subduction zone and direction
- (12) conjectured transform fault
- (13) deep fracture and major fault
- (14) range of currently known basins
- (15) number and type of basin

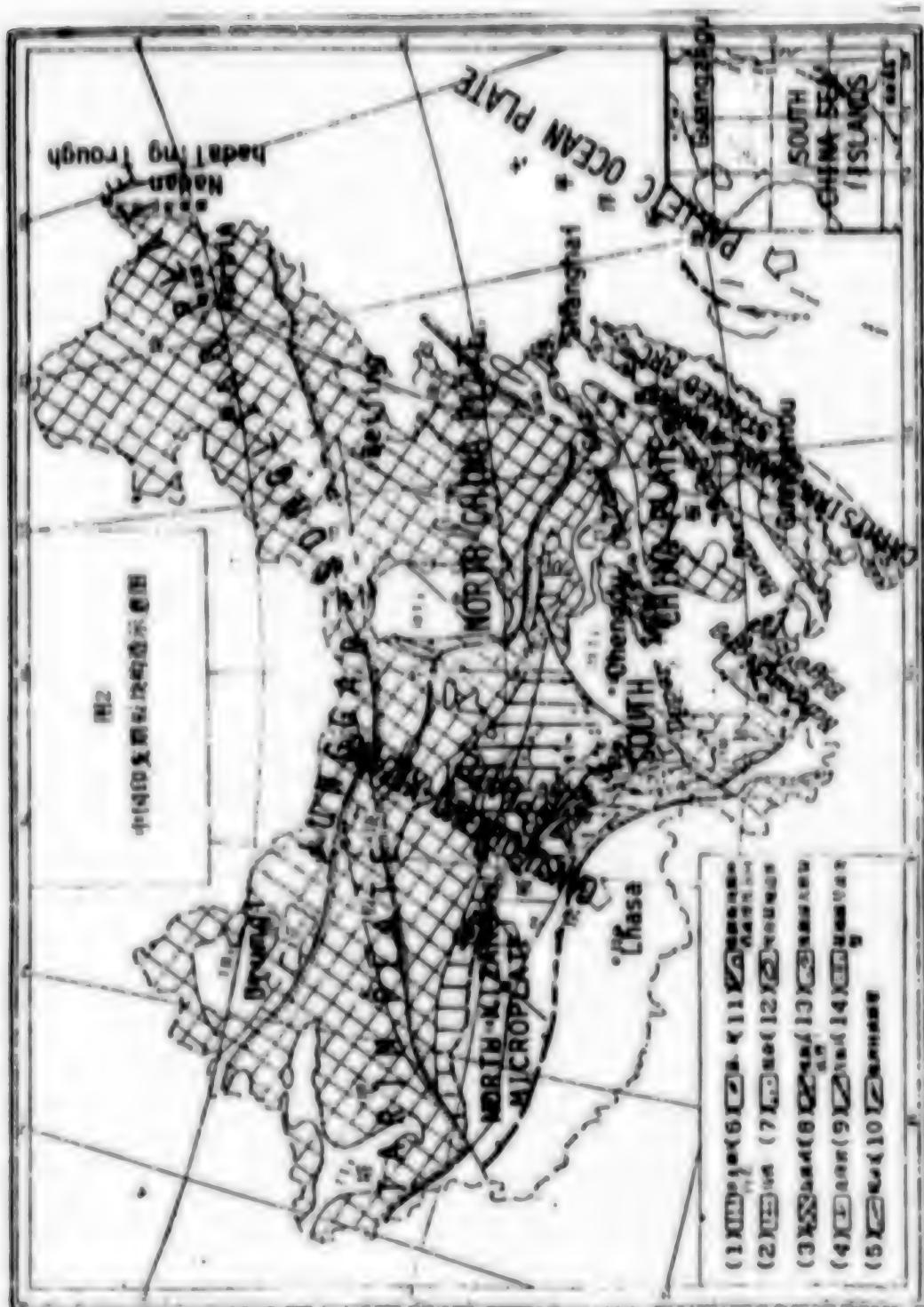


Figure 2. Schematic Tectonic Plate Map of China During Indoian Stage

**Key:** (1) mountain system formed in the

(1) mountain system formed in the Indosinian stage  
 (2) island arc  
 (3) island arc or land  
 (4) granite  
 (5) ophiolite suite  
 (6) basic, ultrabasic rocks  
 (7) seafloor  
 (8) conjectured marginal sea expansion ridge  
 (9) ancient plate boundary  
 (10) conjectured transform fault  
 (11) conjectured subduction zone and direction  
 (12) boundary of currently known basin  
 (13) conjectured deep fracture and major fault  
 (14) number and type of basin

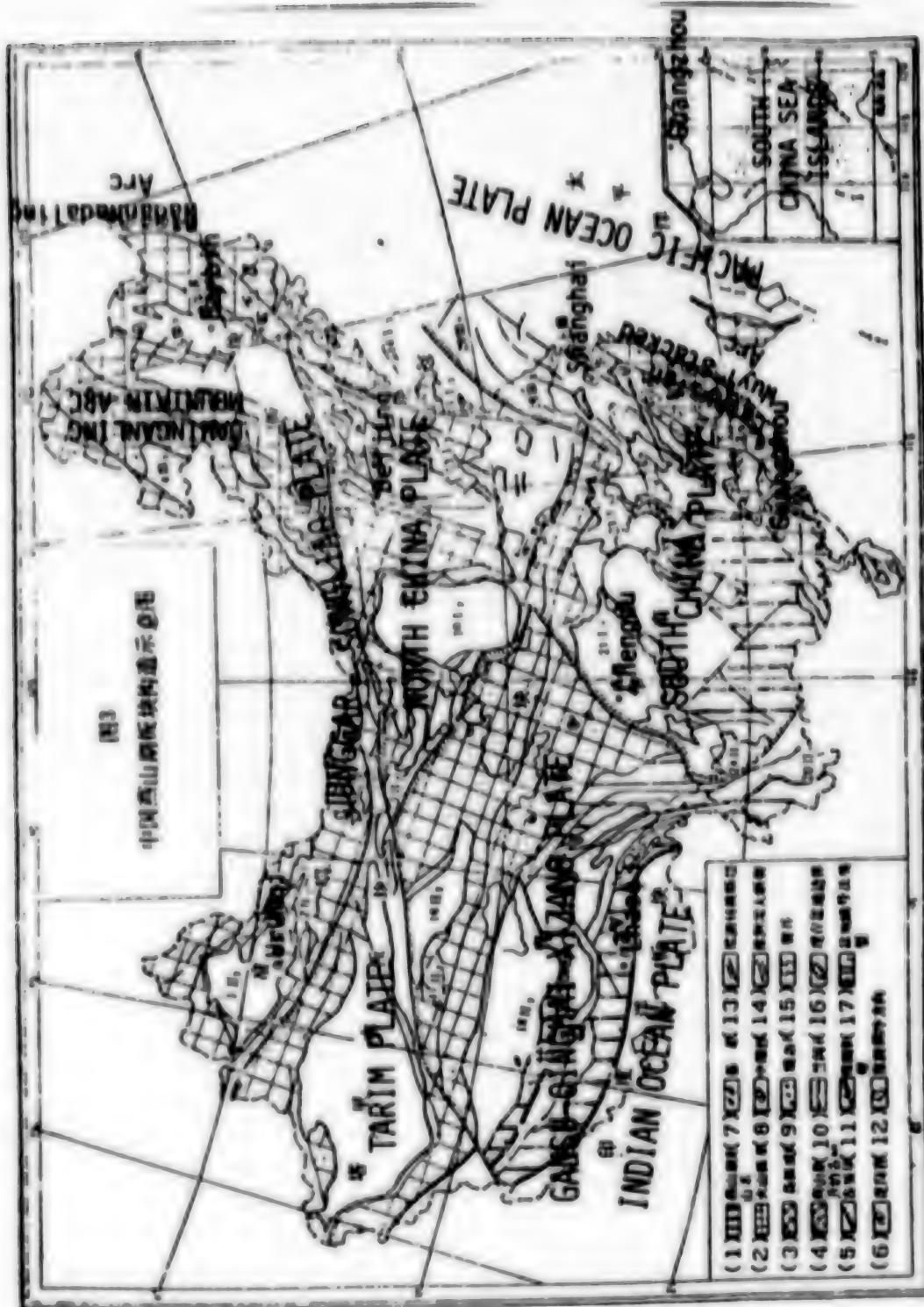


Figure 3. Schematic Tectonic Plate Map of China During Yanshanian Stage

**Key:**

- (1) mountain systems formed in Yanshanian stage
- (2) volcanic arc and island arc
- (3) island arc or land
- (4) ancient land further elevated during Yanshanian stage
- (5) ancient plate boundary
- (6) granite
- (7) basic, ultrabasic rocks
- (8) intermediate and acidic volcanic rocks
- (9) melange
- (10) glauconophane-schist
- (11) conjectured subduction zone
- (12) conjectured downthrust direction
- (13) conjectured transform fault
- (14) conjectured deep fracture and major fault
- (15) rift
- (16) boundary of currently known basin
- (17) basin number and type

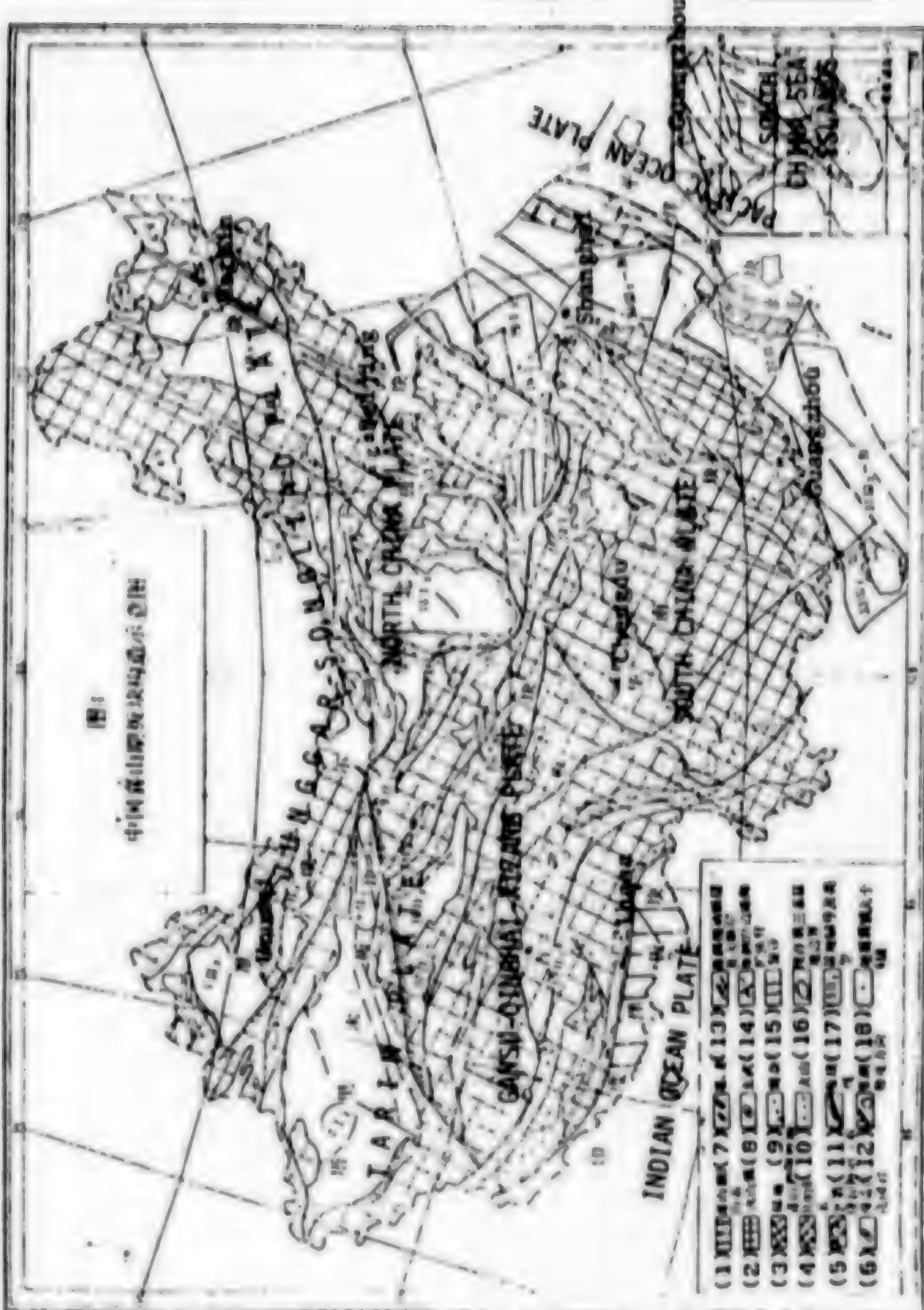


Figure 4. Schematic Tectonic Plate Map of China During Himalayan Stage

Key:

- (1) mountain system forced during Himalayan stage
- (2) volcanic arc
- (3) land
- (4) land or mountain system intensely elevated during Himalayan
- (5) new Tertiary risen in place of sunken old Tertiary fold
- (6) overlying zone granite
- (7) basic, ultrabasic rocks
- (8) basalt
- (9) melange
- (10) volcanic extrusives
- (11) plate collision suture line
- (12) conjectured subduction zone and direction
- (13) conjectured shear fault and major fault
- (14) conjectured marginal sea expansion ridge
- (15) rift valley
- (16) currently known Tertiary basin boundary
- (17) basin number and type
- (18) seismic magnitudes greater than 6 on the scale

## 1. North China Plate

Its core is the North China Ancient Plate which is roughly equivalent to the Sino-Korean Paraplatform referred in Huang Jiqing's article [1]. It is the earliest formed old plate among the three old plates. Its basement was formed after the Zhongtiao movement (1.7 billion years ago) of the early Proterozoic era, and is composed of gneiss, granulite and amphibolite; the older Archaeanzoic Puping Group (2.5 billion years ago) is made up of gneiss, granulite and quartzite, and is found in the North China Region proper. The North China Plate was formed after the Paleozoic subduction and aggradation from the north and south.

The northern boundary of the North China Plate runs along the Northern Rim Deep Fracture of the "Inner Mongolian Axis" to Chifeng and Kauyuan Deep Fractures. Distributed on both sides of the "Inner Mongolian Axis" are paired metamorphic belts which had formed in the early Paleozoic era. For example, early Paleozoic ophiolite suites as well as glaucophane-schist zones of high pressure/low temperature facies are found along the northern fringe from Wuyitai and Hardad near the Ondor Temple to Tulinkai; in the southern fringe, early Paleozoic granite is found in the Cha'ertai and Ba'erteng Mountain area, while andalusite and sillimanite-amphibolite zones of high temperature/low pressure facies are found along the contact between the granite intrusion and clay slate [1]. By the late Paleozoic era, the area was intruded upon by immense quantities of granite during the Variscian movement. All of the preceding evidence suggests that the northern fringe of the Paleozoic North China Plate is of convergent type. The southern boundary of the North China Plate is the Northern Rim Deep Fracture of the Qilian-Qinlin Mountains. During the Caledonian movement, owing to the contraction of Qilian-Qinlin Ancient Sea, the southern boundary of the plate also became convergent. This is manifested by outcrops of glaucophane-schist in Qilian County's Qingshuigou and an intermittent belt of ophiolite formation extending over 700 km. Moreover, further to the east, a kyanite zone representing medium temperature/medium-high pressure amphibolite facies is found in the Ordo-Cambrian of Shaanxi's Lantian, Luonan and Lushi as well as Henan's Luanchuan. The eastern flank of the North China Plate borders on North Jiangsu's Xiangshuigou-Qianlishi Deep Fracture. This has been determined according to geological and geophysical data from northern Jiangsu and the South Yellow Sea, and also in connection with geological conditions in Korea. The ages of the basements and the nature of the Paleozoic formations on the east and west sides of the deep fracture differ remarkably. The relationship between the North China Plate and Tarim Plate is based on the age gap between their basements as well as their evolution during the Paleozoic era. The North China Plate is demarcated by the Altun Mountain Transform Fault and linked to the waist of the Tarim Plate.

From the Sinian Suberathem to the Middle Ordovician, the sediments in the interior of the North China Plate are chiefly composed of neritic carbonatite. The North China Plate had elevated and transformed into land after the Middle Ordovician, experienced ingressions in the Middle Carboniferous, thus causing the sediments to change into land facies in the late period of the early Permian, which marked the end of the history of ingressions. Since the Mesozoic, the

interior of the North China Plate was cut up by four major NE or NEE deep fractures into five second-order tectonic units, i.e., alternating uplifts and depressions, such as the Alxa Uplift, Shaanxi-Gansu-Ningxia Depression, Shanxi Uplift, North China Depression, and Jiaozhou-Liaodong Uplift.

## 2. Tarim Plate

Its nucleus consists of an old plate which had consolidated by the end of the Proterozoic era. The plate which had experienced aggradation in the northern and southern fringes after the Proterozoic era is known as the Tarim Plate. Its northern boundary is located at the Southern Rim Deep Fracture of Central Tianshan. This border appeared to be convergent during the whole Paleozoic era. For example, during the early Paleozoic era, South Tianshan was a miogeosyncline, while North Tianshan was eugeosyncline. Moreover, radiolarian chert, spilite and basic igneous rocks were closely associated with each other and formed ophiolite formations in West Junggar [1]. Based on the argument that the metamorphic Central Tianshan is chiefly a Caledonian folding belt composed of the Silurian System and not Precambrian (2), it is conjectured that the Junggar-Songliao Oceanic Plate could be subducted beneath the Tarim Plate along the South Rim Deep Fracture of Central Tianshan. During the Variscian Period, the plate continued to develop along the same tectonic framework. Acidic-intermediate, basic volcanics of the geosynclinal facies are found in Devonian to Carboniferous formations which had been intruded by massive acidic rocks during the middle period of the Variscian movement. These rocks are accompanied by the Borohoro ultrabasic rock zone. The southern boundary of Tarim Plate is located at the Northern Rim Deep Fracture of the Karakorum Mountains. Large amounts of Variscian granite are distributed north of the fault, which indicates that the southern fringe of the Tarim Plate was also convergent during the late Paleozoic. The early Paleozoic formations in the interior of the plate consists of platform type dolomite and clastic sediments which had transformed into sea-land alternating facies in the late Paleozoic era, and into an immense inland basin since the Mesozoic; but it is still partially linked to the sea water in the southwest corner.

## 3. Junggar-Songliao Plate

Situated between the Siberian Plate, the Tarim Plate and North China Plate, it is an oceanic plate which gradually shrank through numerous compressive subductions, and finally became part of the relic of the suture belts in our country following the collision between the three continental plates. It is also considered as an orogenic folded belt which had developed through the northward accretion of the Tarim Plate and North China Plate in the Paleozoic. The Junggar-Songliao Oceanic Plate existed as far back as the Proterozoic era. Based on the fact that no subduction zones of that period are found along the edges of the North China Plate, plus the presence of relatively mature flysch and flyschoid formations, it is conjectured that the boundary of that period was divergent and in the stage of spreading. During that period, the northern fringe of the Junggar-Songliao oceanic plate was located approximately in the area of Ulaangom-Qolon-Manzhouli. The southern boundary was situated approximately in the area stretching from the northern fringe of Central Tianshan Mountains to the northern edge of the Yinshan Mountain Range. It is a latitudinal oceanic plate linking

the Ancient Pacific in the east and connecting the ancient Central Asia. Based on the absence of early Paleozoic sedimentation in Jiamusi and Zhangguancai Mountain regions which are located east of Xiaohinganling Mountain inside the eastern part of the oceanic plate, it is conjectured that a microplate surrounded by seas could have existed at the time (equivalent to what we used to call intermediate massif). During the Caledonian period, the Junggar-Songliao Ocean Plate started to contract; its subduction activity began to take place along the Itirsh/Mid-Montolian Arcuate Great Fault (Derbugan Great Fault) located along the front edge of the Siberian Plate, thus forming a very long belt of ophiolite suite. The subduction zone of its southern fringe occurred along the northern boundary of the North China Plate and the southern edge of Central Tianshan where paired metamorphic belts and ophiolite suites appeared (as described above). During the Variscian period, as the two continents continued to close in from the north and south, the Junggar-Songliao Oceanic Plate was further reduced into the Junggar-Nei Monggol-Songliao Region, forming an arc-shape trough bent towards the south. It was the middle section of the trough that first underwent collision and closure. This is based on the fact that the ultrabasic rocks representing oceanic crusts are concentrated in the middle section, and their age distribution is such that the early ones are found in the northern and southern fringes while the late ones are found in the middle portion. For example, in Mongolia, there are three ophiolite suite belts: the northern belt in Bayangol, the central belt in Manlai and Arts Bogd Uul [mountain], and the southern belt in Naqigetu and Adas Mountains; the northern and southern belts are products of the early Variscian movement, the central belt is the product of the late Variscian movement. In China's Nei Monggol, there are three corresponding ultrabasic rock belts: the Nei Monggol Northern Rock Belt, the Nei Monggol Southern Rock Belt, and the Central Belt in the middle (i.e., Erdaojing-Jiaoqi'er Rock Group) (3). It is possible that the collision suture could have passed through the Xar Moron River Deep Fracture in China. Comparison between the northern and southern sides of the fault not only shows differences in Paleozoic sedimentary formation, but also a remarkable gap between the biota on both sides of the fault. For example, in the northern side, the upper Paleozoic group is predominated by pyroclastics with cold-water fauna and Angaraian flora; in the southern side, the upper Paleozoic group is chiefly composed of carbonatite and land facies clastics, and has warm-water fauna and Cathysian flora (4).

As the middle section of the sea trough was in the early and middle Variscian periods, an arc-tangent line type collision occurred between the Siberian Plate and North China Plate, while the North China Plate withstood the further compressive onslaughts of the Siberian Plate, thus giving rise to the formation of a delta-shape zone of moderate strain in the Junggar Region where the basement of pre-early-Carboniferous folding transformed into a Permian land facies basin and deposited excellent formations of oil and gas layers. Corresponding to it in the tectonic framework, the Songliao Region is located on the eastern section of the contracting sea trough where the shrinking oceanic plate subducted towards the east and west. The westward subduction zone could have extended from Nei Monggol's Ujimqin Banner to Heilongjiang's Gannan County. It not only became a demarcation line between the early and middle periods of the Variscian movement, it was moreover intruded by large quantities of Variscian granite. It is possible that the eastward subduction zone could have existed in an area extending from the Yilan-Yitong Deep Fracture to Suihua where the late Paleozoic rock

formations on both sides of the fault are quite different and extensively intruded upon by granite during the Variscian movement which forced the sea water within the ocean plate to recede eastwards to the Nadanhadaling Trench, thus giving rise to the embryonic form of the Songliao Basin.

#### 4. Gansu-Qinghai-Xizang Plate

Situated south of the Tarim Plate and west of the Yangzi Plate, the Gansu-Qinghai-Xizang Plate was occupied by ocean water long before the early Paleozoic era. Prior to the Paleozoic era, it bore the traits of an oceanic plate. Its nomenclature, Gansu-Qinghai-Xizang Plate, is based on the unique historical process of its plate evolution characterized by the Andes-type continental margin accretion mode. In essence, it is a suture belt which had evolved out of the oceanic crust between the Tarim-North China Ancient Continent and the Indian Ancient Continent as well as the Caidam and North Xizang Microplates over a long period of time, i.e., similar to A. W. Bailey's (1977) compressive megacoalescing zone [4].

During the Caledonian period, the Gansu-Qinghai-Xizang Oceanic Plate subduction along the North China Plate, thus giving rise to the Qilian-Qinling Mountain System inlaid along the southern edge of the North China Plate; its southern portion was still subjected to marine transgression and remained geosynclinal (as described earlier in the article). In the early period of the Variscian movement, the Gansu-Qinghai-Xizang Plate made another downthrust against the Kulun-Burhan Budai Mountains located along the southern margin of the Caidam Microplate; Permian ophiolite suites and melanges can be found within the distance of approximately 460 kilometers from the southern foot of the Burhan Budai Mountain towards the east to the eastern part of the Jishi Mountain via Haqen. The geosyncline continued to migrate southwards. During the Indosinian period, the Gansu-Qinghai-Xizang Plate frequently experienced subduction from the Kekexili Mountain [in Tibet] to the north of Jinsha River, thus giving rise to the following belts from here to the south: a melange belt stretching from the southern bank of Qinghai Lake to West Qinlin Mountain, a melange belt from the Burhan Budai Mountain to Jiali Mountain, an ophiolite suite belt along the banks of Jinsha River, and a melange belt at Derong [3]. Finally, it was compressed into an extensive mountain system known as the Songpan-Garze Indosinian Folded Mountain System.

In the Mesozoic era, the marine transgression shifted to Tangla Mountains and further south. It is possible that a microplate could have existed in the Tangla Mountain region in northern Xizang. This assumption is based on the discovery of Silurian and Devonian limestone and sandy shale containing neritic biological organisms, as well as Carboniferous and Permian formations containing neritic biological organisms of the Eurasian Continent in northern Xizang's Zhunie (Qoni?) region. South of the microplate is the Lunbula basin where interlayers of middle and lower Silurian limestone and dolomite as well as fossil assemblages corresponding to the Lojoping Group have been discovered. Unconformity contacts of the Jurassic to late Triassic formations and Permo-Carboniferous formations have been found in the Wenquan Region located in the eastern part of the microplate. These facts indicate that the North Xizang Microplate had experienced folding but no

geosynclinal sedimentation during the Indosinian stage. During the Yanshanian stage, the Gansu-Qinghai-Xizang Plate went through another subduction along the Gerze-Nagu-Lancangjiang Deep Fracture, exposing ophiolite suite and glaucophane-schist formations. During the Himalayan stage, the Indian Plate drifted northwards, causing collision in the Yarlung Zangbojiang Region, and forming the world famous suture line; as a result, the Gansu-Qinghai-Xizang Oceanic Plate became completely closed and turned into a continental plate, thus ending the southward migration of the geosyncline and concluding the Chinese continent's Andes-type southwestward marginal accretion (Figures 2,3)

### 5. South China Plate

The South China Plate includes the Yangzi Ancient Plate. It was gradually formed from the southeast portion of the Yangzi Ancient Plate through accretion towards the Pacific Plate in the form of the West-Pacific type of marginal sea/volcanic arc/trench tectonic movement. The extension of the Yangzi Ancient Plate is roughly the same as the Yangzi Paraplatform mentioned in Huang Jiqing's article. It is an old plate developed from an ancient island arc which had originated during the late Proterozoic Jinning-Chengjiang stage (700-1,000 million years) through ocean crustal subduction. From the Sinian Suberathem to the middle Triassic epoch, it was predominated by platform carbonatite; during the late Triassic epoch, the marine transgression ended and it changed into a terrestrial basin. It is separated from the North China Plate by the Qilian-Qinling Ancient Sea. In the course of South China's post-Paleozoic crustal development, it has served as a stable continental nucleus. [5]

Northwest of the Shangyu-Zhengyu-Dabu Deep Fracture, the Sinian-Upper Paleozoic Groups in the southwest corner of the Yangzi Ancient Plate consists of a continuous formation of geosynclinal flysch. In the Yankai-Wuyi region, the Sinian-Cambrian systems consist of intercalated bands of spilite-keratophyre and basic submarine extrusives. In the course of the Caledonian movement, these formations underwent metamorphism and folding; andalusite-sillimanite metamorphic belt of high temperature/low pressure facies are found in Wuyi Mountains, Wugong Mountains and Yankaida Mountains. In addition, there are also discoveries of medium temperature facies minerals such as kyanite in a few places. Wuyi Mountains and Wugong Mountains had been invaded by migmatite and granite whose isotopic ages are approximately 400 million years. These features indicate the existence of the Cathaysia-Wuyi-Yankai Island Arc (5). In many places along the Zhenghe-Dabu Deep Fracture, such as Jianyang, basic and ultrabasic rocks have been found. The coexistence of ophiolitoid and flysch represents the subduction of the Old Pacific Plate during the Caledonian. The Guizhou, Guangxi and Hunan regions to the northwest of the Cathaysia-Wuyi-Yankai Island Arc were transformed into a marginal sea as the result of the backarc spreading during the Variscan stage. This status extended from the Devonian all the way to the middle Triassic period when it finally became closed [5]. The Nanpanjiang Marginal Sea was also formed during this period of time. At the same time, the Yunnan-Sichuan-Guizhou Guangxi Region in the southwestern portion of the Yangzi Ancient Plate underwent stretching which gave rise to massive effusions of Emeishan Basalt along a deep fracture.

The volcanic arc of the Indosinian-Yanshanian stage is basically superimposed on the southeast portion of the Cathaysia-Wuyi-Yankai Island Arc and extends in

the northeast direction through the southern part of Korea to the paired metamorphic belts of Japan. This is the well-known coastal volcanic rock belt of the East Asian continent. The Himalayan folded belt extends from Taiwan's Central Mountain towards the northeast through the Central Uplift of the East China Sea. Further north, it may even reach as far as Japan. Since the late Tertiary period, the edge of the continent has shifted to the present trench position. But the evolution of the South China Plate has not ended as it is still in the continuous process of accretion towards the Pacific (Figure 4).

## II. The Formation and Classification of Oil and Gas Basins in China

### (1) The Basinning Stage of Oil and Gas Basins in China

As previously described, in the course of the conflicting movement between the three Chinese ancient plates and the surrounding plates, i.e., in the accretion process of the Chinese continent, some oceanic basins were annihilated, some continental basins were formed, and some old plates were reconstructed. The hundreds of basins which can be seen on the Chinese continent today, as well as the 10-odd large and medium size sedimentary basins in the offshore area are all products of the tectonic movement between the plates. We shall now discuss about the time, cause and form from the plate tectonic movement point of view.

1. The Variscian stage was the main period during which large basins were formed in the northwestern and northern parts of China. Prior to the Variscian stage, most of the Tarim, North China and Yangzi Old Plates were exposed above the sea level, and constituted the terrigenous areas of the surrounding seas. There were no distinct inland basins on the Chinese continent then. In the middle and late Variscian stages, due to the southward compression of the Siberian Plate, the Junggar-Songliao Trough shrank and gave rise to the embryonic forms of the Junggar, Erlan and Songliao Basins distributed in the east-west direction along the continental trough. Meanwhile, subduction zones were formed from Central Tianshan to the Yinshan Mountain and became the northern fringes of Tarim Basin and North China Basin. In addition, the Caledonian and Variscian subduction zones of the Qilian-Qinling Mountains became the southern margin of the North China Basin which was moreover blocked in the east by the Jiaozhou-Liaodong Old Land. This led to the formation of the North China Giant Basin which was semi-closed and of marine/continental alternating facies to land facies. During the mid-Variscian stage, when the Gansu-Qinghai-Xizang Ocean Plate experienced subduction in the Kunlun Mountain Region, the Tarim Basin and Caidam Basin also took form.

Thus, the Variscian stage is the period in which giant type of inland basins were formed north of the Kunlun-Qinling Mountain System in China. It not only closed the Junggar-Songliao Trough, but also forced the sea area to recede to south of the Kunlun-Qinling Mountain, thus forming three distinct east-to-west tectonic domains in China.

2. The Shaanxi-Gansu-Ningxia and Sichuan Basins were formed in the Indosinian stage. It is possible that during the Indosinian stage, the subduction activity of the Ancient Pacific Plate against the Eurasian Continent could have caused the mantle to upwarp in the eastern part of China, i.e., behind the

South Korean-Cathysian-Wuyi-Yunkai Volcanic Arc, which gave rise to the Songliao-North China-Jianghan NNE crustal uplift. This caused the North China Basin to become a depression in the west and an uplift in the east; and the western depression became the Shaanxi-Gansu Ningxia Basin. The eastern portion of the Upper Yangtze onland sea was also affected by the upwarping; a giant terrestrial basin, i.e. the Sichuan Basin, of the Xujiabe Group was formed on its western flank during the large Indosinian stage.

3. The Songliao-North China-Jianghan Craton Rift Basin began to take form during the Yanshanian stage when the preceding crustal uplifts developed into tension failures (?) which were predominantly NNE, and thus led to the effusion of Cretaceous basic and intermediate volcanics. But due to the character differences of plate activity sites, they began to develop in different directions during the late Yanshanian stage. After the Jurassic period, the Songliao Basin became a backarc [retroarc] basin located behind the Dabie Volcanic Arc and Nanhai Volcanic Arc, and deposited very thick Cretaceous layers, thus creating material and temperature conditions conducive to the formation of large oilfields. At the end of the Cretaceous period, the Yanshanian movement caused the basin to upwarp and fold while depositing relatively thin Tertiary layers.

The basement of the North China Basin is chiefly composed of brittle carbonatite from the Sinian Suberathem to the Ordovician System. By the Cretaceous to early Tertiary periods, it had developed into a rift system basin and deposited very thick layers of fluviolacustrine facies. Finally, during the late Tertiary period, it became a depression which now constitutes the large buried-hill type oil/gas field in the eastern part of China.

The tectonic development of Jianghan Basin is similar to that of North China. But the character of their basements as well as the terrigenous sources surrounding the basins are different; although both are rift basins, their oil and gas pools differ in type and scale.

4. The North Jiangsu-South Yellow Sea Backarc Basin was formed in the Yanshanian stage. Some 3,000 meters of pyroclastics, conglomerate, red mudstone, and siltstone have accumulated in certain parts of the basin.

5. During the early stage of the Himalayan movement, a backarc basin was formed in the course of subsidence in the western part of the East China Sea, and developed into a deltaic basin in the late stage. During the early Himalayan movement stage, the Taiwan-Pearl River Mouth Basin was a stretched basin on the fringe of the continent, and also developed into a deltaic basin in the late stage.

6. Except for the Northern Xizang Microplate which became a fairly large basin known as the North Xizang Basin during the Indosinian to Yanshanian periods, the rest of the Gansu-Qinghai-Xizang Plate has intermontane medium and small size basins which had formed in the suture belt during the Yanshanian to Himalayan stages.

## (2) Classification of Oil and Gas Basins in China

The classification of oil and gas basins from the standpoint of plate tectonics is a new problem in petrogeology today. In foreign countries, H. D. Klemme (1975), A. W. Bailey (1975) and W. R. Dickinson (1977) are among the prominent people in this field who have attempted to use plate tectonics in classifying the world's oil and gas basins [4,6,7,8]. In our country, Yan Dunshi [7051 2415 1395] (1975), Zhu Xia [2612 1115] (1978) and Zhao Chongyuan [6392 6850 6678] (1978) have put forward plans for the classification of our country's oil and gas basins by combining plate tectonics with the practical conditions in China (6). On the basis of plate-tectonic classification of basins by our predecessors, this article presents an analysis of the time, cause, nature and late-stage development of basins in accordance with the plate tectonic framework in our country since the late Paleozoic era. To best expound the laws governing the formation of oil and gas basins in our country, and also to help predict the prospects of oil and gas basins, the authors have divided China's major sedimentary basins into the following 10 prototypes in 5 categories. Finally, the composite nomenclature of each basin was determined on the basis of the close relation between the chief characteristics of evolution and oil/gas:

### I. Cratonic Basins

- (1) Precambrian basements.
- (2) Acted as stable continental nuclei throughout the history of plate geological activities.
- (3) Contain Paleozoic or early Mesozoic platform facies sedimentary overlying strata.

#### I-1 Intracratonic single cycle basins

- (1) Situated within the craton.
- (2) Predominated by Paleozoic marine facies carbonatite deposits; no transitional Paleozoic facies or Mesozoic land facies deposits.

#### I-2 Intracratonic polycyclic basins

- (1) First cycle consists of Paleozoic or early Paleozoic marine facies platform-type deposits.
- (2) Second cycle consists of late Paleozoic or early Mesozoic marine facies or transitional facies deposits; transformed into land facies basins following the Mesozoic era.
- (3) Distinct gaps between late and early Paleozoic, or Paleozoic and Mesozoic deposits.

### I-3 Intracratonic rifted basins

- (1) Located on paleo-basement of the craton.
- (2) Due to upwarping of the mantle caused by subduction of Meso-Cenozoic Pacific Plate, the continental crust came under tensile stretching and thus produced rifted basins.

## II. Suture Belt Basin

### II-1 Contraction sea basins

Relative motion of two drifting continents caused the sea between them to contract and form into late Paleozoic land facies basin.

II-2 Intermontane basins or affected piedmont basins between suture belts. Meso-Cenozoic basins formed between ancient mountain systems between the Gansu-Qinghai-Xizang suture belts are known as intermontane basins.

As the northwest region came under the subduction force of the Gansu-Qinghai-Xizang Plate in the early period and collided with the Indian Plate in the late period, Meso-Cenozoic basins, known as piedmont basins, were formed as the result of cratonic edge subsidence.

## III. Arc-Trench Basins

### III-1 Forearc basins

Basins formed in the arc-trench gaps situated in front of magmatic arcs or volcanic arcs.

### III-2 Backarc basins

Marginal sea basins behind magmatic arcs, or continental edge rifted basins behind volcanic arcs, or subsidence basins behind them.

### III-3 Intra-arc basins

Small-size Meso-Cenozoic downthrow basins formed over magmatic arcs or volcanic arcs as the result of crustal stretching.

## IV. Deltaic Basins

Late Tertiary to Quaternary sedimentary basins formed in continental shelf zones as the continental rivers emptied into the sea.

## V. Revived Fault Basins

Due to the late-period tectonic movement, the ancient faults on land underwent another subsidence or shearing, thus forming Mesozoic and Cenozoic small-size basins.

Based on the preceding principle some 30 major basins on the Chinese continent and neighboring offshore areas are classified as shown in the following table and Figure 5: (see table and Fig. 5 on following pages).

From the preceding classification of basins, we arrive at the following characteristics:

- (1) Among the 10 prototype basins, only I-3, IV and V are produced from crustal stretching while the rest are all related to crustal compression. Although the former types of basins had resulted from crustal stretching, they were also the result of intraplate strain caused by relative compressive action of the plate edge, which indicates that the development of basins on the Chinese continent is related to the special conditions caused by long-period compression by surrounding plates.
- (2) Large basins measuring over 100,000 square kilometers on the Chinese continent were all formed in the Variscian and Indosinian Stages, which was obviously related to the early consolidation and late-period stabilization of their foundations, such as the Tarim, Shaanxi-Gansu-Ningxia, North China and Sichuan Basins.
- (3) Giant intracratonic rifted basins are mainly found in East China's Songliao-North China-Jianghan Basin Zone which runs in the NE direction and constitutes the principal oil region in our country. The formation of this type of basin is related to the crustal stretching brought about by the upwarping of the intracratonic mantle behind the volcanic arc which was caused by the westward compressive force of the Pacific Plate during the Yanshanian stage.
- (4) The formation of the great Meso-Cenozoic sea basin in the coastal area along southeast China is related to the backarc or forearc tectonic element produced by the Pacific Plate downthrust against the Eurasian Continent.

### (3) The Evolution of Basins

In the preceding classification, the 10 types of basins in 5 categories are all prototype basins; as the plates underwent tectonic changes, in the course of geological development, the basin types also underwent continuous evolution which affected the sedimentary facies and tectonic frameworks inside the basins. Thus, studying the evolution of basins helps to predict olefiant beds and structural traps.

1. In the western part of China, the piedmont subsidence or intermontane subsidence growths of the Tarim, Junggar and Caidam Basins are related at once to the early-period subduction of the Gansu-Qinghai Xizang Oceanic Plate and the late-period collision with the Indian Plate. In the southwestern depression of the Tarim Basin, there is a break in the Triassic system, and the Jurassic-Cretaceous is over 1,800 meters thick; but in the Kuqa Depression of the [basin's] northwest fringe, the Triassic measures 1,200-1,500 meters thick, the Jurassic-Cretaceous System is 3,000-5,000 meters thick. Thus, the southern fringe is an uplift while the northern fringe is a depression. During the same period of time, the northern and southern fringes of the Caidam

Basin No.	Name of Plate	Name of Basin	Basin Prototype			Variation in Tectonic Basin			Basin Composite Name		
			II-1	II-2	II-2	II-1	II-2	II-2	II-1	II-2	II-2
1.	Tonggar	Junggar	II-1	II-2	II-2	II-1	II-2	II-2	II-1	II-1	II-1
2.	Junggar-Tongtiao Plate	Turpan	II-1	II-2	II-2	II-1	II-2	II-2	II-1	II-1	II-1
3.		Krilan	II-1	II-1	II-1	II-1	II-1	II-1	II-1	II-1	II-1
4.		Hailar	II-1	II-1	II-1	II-1	II-1	II-1	II-1	II-1	II-1
5.		Songliao	II-1	II-1	II-1	II-1	II-1	II-1	II-1	II-1	II-1
6.		Sanjiang	II-1	II-1	II-1	II-1	II-1	II-1	II-1	II-1	II-1
7.	Tarim Plate	Tarim	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
8.		Dankuang	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
9.	North China Plate	Jiuguan	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
10.		Shanxi-Gansu-Ningxia	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
11.		Fenwei	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
12.		Qinghai	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
13.		North China	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
14.		North Yellow Sea	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
15.		Jiaolai	I-1	-	I-1	I-1	I-1	I-1	I-1	I-1	I-1
16.	Gansu-Qinghai-Xizang Plate	Gaidam	III-2	III-2	III-2	II-2	II-2	II-2	II-2	II-2	II-2
17.		Yankul	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
18.		Northern Sichuan	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
19.		Lampang	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
20.		Lampang-Siam	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2	I-2
21.	South China Plate	Sichuan	I-1	I-2	I-2	I-1	I-2	I-2	I-2	I-2	I-2
22.		Yunnan	I-1	I-2	I-2	I-1	I-2	I-2	I-2	I-2	I-2
23.		Jiangnan	I-1	I-2	I-2	I-1	I-2	I-2	I-2	I-2	I-2
24.		Chongming	I-1	I-2	I-2	I-1	I-2	I-2	I-2	I-2	I-2
25.		Wusen Jiang Depression	I-1	I-1	I-1	I-1	I-1	I-1	I-1	I-1	I-1
26.		Beixue	I-1	I-1	I-1	I-1	I-1	I-1	I-1	I-1	I-1
27.		Taiwan	I-1	III-2	III-2	I-1	III-2	III-2	III-2	III-2	III-2
28.		Northern Jiangnan	I-1	III-2	III-2	I-1	III-2	III-2	III-2	III-2	III-2
29.		South Yellow Sea	I-1	III-2	III-2	I-1	III-2	III-2	III-2	III-2	III-2
30.		East China Sea	I-1	III-2	III-2	I-1	III-2	III-2	III-2	III-2	III-2
31.		Taiwan-Pearl River Mouth	I-1	III-2	III-2	I-1	III-2	III-2	III-2	III-2	III-2
32.		Fujian	I-1	III-2	III-2	I-1	III-2	III-2	III-2	III-2	III-2
33.		Beibu Gulf [Beibu Gulf]	I-1	III-2	III-2	I-1	III-2	III-2	III-2	III-2	III-2

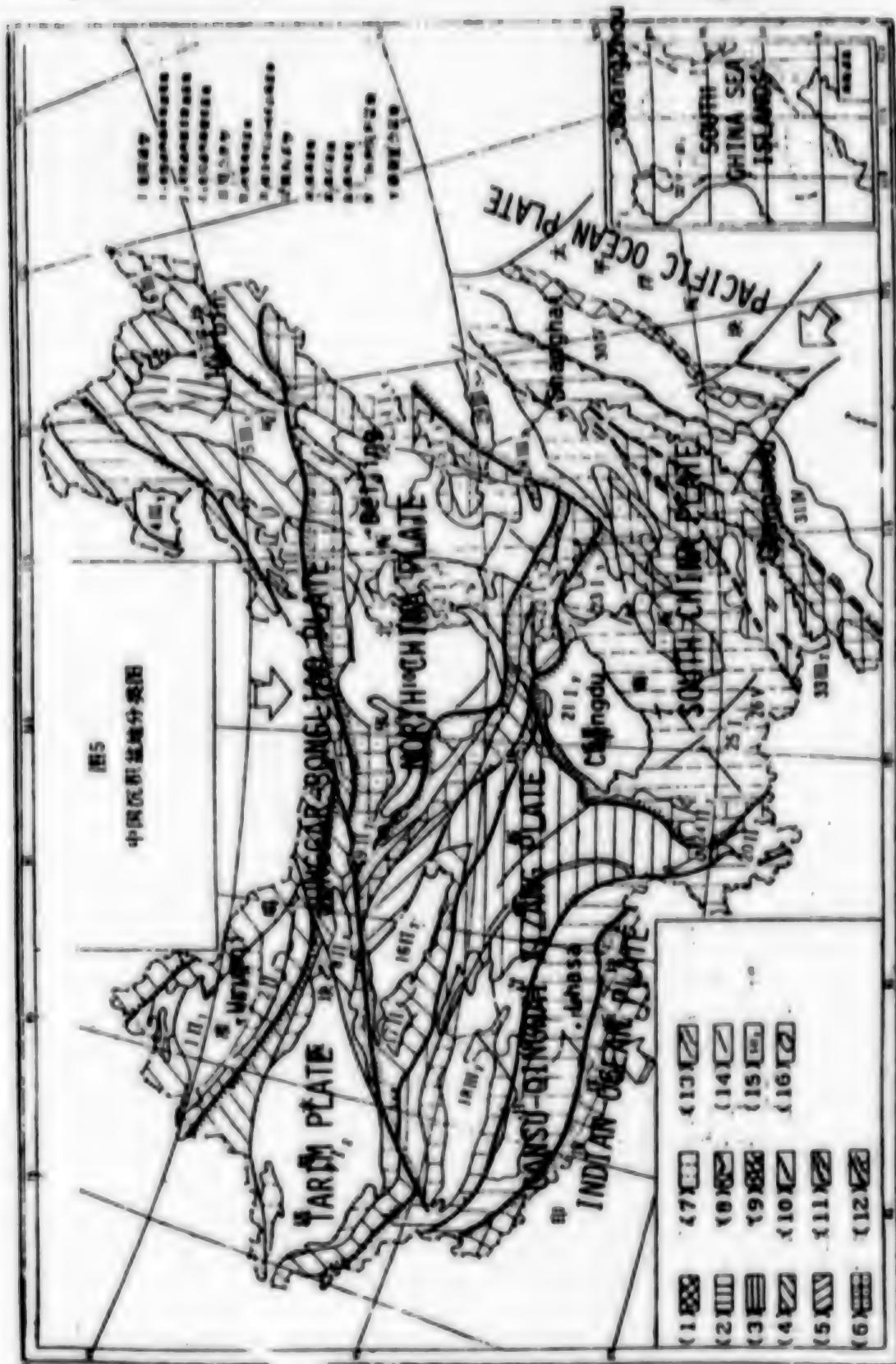


Figure 5. Sedimentary Basin Classification Chart of China

Key: [to Figure 5]

- (1) Himalayan folded belt
- (2) Yanshanian folded belt
- (3) Indosinian folded belt
- (4) Variscian folded belt
- (5) Caledonian folded belt
- (6) Pre-sinian paleocontinent
- (7) non-metamorphic Paleozoic group
- (8) plate division boundary and direction
- (9) Variscian, Indosinian, Yanshanian subduction zone
- (10) plate collision suture line
- (11) conjectured Indosinian arc
- (12) conjectured Yanshanian arc
- (13) conjectured Himalayan arc
- (14) deep fracture
- (15) basin number
- (16) extent of basin

I	Cratonic type
I-1	Intracratonic single cyclic basin
I-2	Intracratonic polycyclic basin
I-3	Intracratonic rifted basin
II	Suture belt type
II-1	Contraction trench basin
II-2	Retrosuture intermontane or piedmont basin
III	Arc-trench system type
III-1	Forearc basin
III-2	Backarc basin
III-3	Intra-arc basin
IV	Deltaic sedimentary basin
V	Fault complex basin

underwent similar tectonic framework changes. These geological features were obviously related to the downthrusting action of the Gansu-Qinghai-Xizang Plate which forced the southern fringes of both basins to elevate during the Indosinian and Yanshanian stages. But by the late Tertiary period, the northern and southern fringes of all three basins began to experience opposite changes; the southern fringes underwent subsidence amounting to approximately 6,000 meters whereas the northern fringes experienced relatively less upwarping, varying from several hundred meters to some 4,000 meters. Thus shows that the Indian Plate collision changed the subsidence form of the basins' northern and southern fringes.

2. In the eastern part of China, the vertical and horizontal evolutionary changes of basin downthrows and subsidences are related to the mantle upwarping as well as the external conditions of late-period basin evolution. For instance, in the Jurassic period, the Songliao Basin and North China Basin were affected by mantle upwarps and became downthrow basins. But volcanic arcs occurred in the eastern and western fringes of the Songliao Basin in the late Cretaceous period and thus altered the preceding tectonic framework, causing extensive subsidence in the Cretaceous period, and the anticlinal Daqing Oilfield took form at the end of the Cretaceous period when folding occurred in the area. On the other hand, the North China Basin lacked the preceding backarc conditions during the Cretaceous to early Tertiary periods, and thus continued to downthrow and eventually gave form to rifted buried-hill oilfields; it was not until the late Tertiary when it changed to subsidence.

The Sichuan Basin and Jianghan Basin are very close to each other; in the Jurassic period, the former was a subsidence basin, and the latter was downthrow basin. Careful study shows that the difference was obviously related to the fact that the mantle upwarping affected the Jianghan Basin, but not the Sichuan Basin.

3. The evolution of the Meso-Cenozoic basins in China's sea area is related to the arc produced by plate subduction. During the Yanshanian stage, the South Yellow Sea Basin was a backarc subsidence basin, and the deposits consisted of volcanics and detrital rocks which had been transported from the continent; by the late Tertiary period, it evolved into a fluviolacustrine facies downthrow sedimentary basin. The East China Sea was a backarc basin in the early Tertiary period and evolved into a continental-edge deltaic sedimentary basin in the late Tertiary period.

Deltaic basins have developed both in the depression at the western side of the East China Sea and the Taiwan-Pearl River Mouth; but the deltas had evolved out of different geological backgrounds. The deltaic basin in the East China Sea was formed on Changjiang River's sedimentation blocked at the sea inlet by early Tertiary folded arcs, whereas the Taiwan-Pearl River Mouth Deltaic Basin developed on the basement of a stretched basin at the edge of the continent behind an arc formed during the Himalayan stage. In various other kinds of geological backgrounds, different types of oil and gas traps were formed. It is possible that the former is predominated by anticlinal traps while the latter is mostly fault block traps.

### III. The Characteristics and Prospects of Various Kinds of Oil and Gas Basins

#### (1) Intracratonic Polycyclic Basins

In China, this particular type of basin consists of the Tarim, Shaanxi-Gansu-Ningxia, Sichuan and North China Basins, which account for 40 percent of the entire country's sedimentary rock area on land. Some of them are filled with Meso-Cenozoic land facies sedimentary rocks and account for 50 percent of the basins throughout the country. Some basins have preserved Paleozoic marine facies carbonatite formations and account for 37 percent of the volume of the entire country's subaerial explorable carbonatite. Even without the North China Cratonic Rifted Basin, the other three basins still account for a tremendous proportion of sedimentary rocks in terms of area and volume, and they are all endowed with material conditions conducive to the formation of oil and gas fields. Based on many years of exploration, the preceding types of basins are found to have the following characteristics pertaining to hydrocarbon-bearing layers:

1. Numerous petroliferous series of strata in which the Mesozoic and Cenozoic oil layers are the primary pay beds in our country. Commercial oil/gas reservoirs can be found in Paleozoic to Mesozoic formations; e.g., more than 10 oil and gas layers are found in Sichuan Basin's Paleozoic to Mesozoic formations. Large quantities of oil seepage are present in certain stratifications of the Mesozoic era, such as North China's Sinian Suberathem oil seepage, Sichuan's Cambrian oil seepage and Tarim's Permian oil seepage.
2. While the centers of basins often have stable massifs, the piedmont depressions of basins are relatively active; thus, they have different types of oil and gas pools. For example, in Sichuan Basin's Central Sichuan Region, the Triassic to Jurassic Systems are lithological oil and gas pools, while Western Sichuan and Eastern Sichuan are predominated by anticlinal gas pools. Similarly, in the central south portion of the Shaanxi-Gansu-Ningxia Basin, the oilfields in Maling, etc. have stratigraphic type lithological oil pools; on the western fringe of the basin, the Majiatao-Shajingzi Fault Fold Belt has structural oil pools. The Tarim Basin may also have similar variations.
3. Large-size paleo-uplifts were generally formed in the interior portion of basins in the course of the Caledonian or Variscian movements. After a long period of depositional intermittence, new overlying layers were formed, and some were even covered with gypsum layers which became overlying strata. For example, in the Sichuan Basin, the Leshan-Longnusi Paleo-Uplift is covered with a layer of Triassic gypsum and salt. The Shaanxi-Gansu-Ningxia Basin has an early Paleozoic uplift in the center. In the Tarim Basin, besides the Bachu-Paleo-Uplift and Central Paleo-Uplift of the late Paleozoic era, there are also interbeddings of gypsum in the carbonatite system. The North China Basin also has a late Paleozoic paleo-uplift as well as zonal gypsum and salt layers in its Ordovician system. In foreign countries, these geological features were also conducive to the formation of large oilfields during the Paleozoic era.

4. Although the temperature gradient of this type of basin is relatively low (usually 2.3 degrees Centigrade per 100 meters in Sichuan Basin; 2.15 degrees Centigrade per 100 meters in Shaanxi-Gansu-Ningxia Basin), due to the advanced age, the maturity rate of the Paleozoic rocks is relatively high and gas layers are often found in the course of drilling. In the preceding four basins, the Carbo-Permian, Triassic and Jurassic systems generally have commercial coal strata which can yield large volumes of coal gas, thus adding to the rich resources of natural gas.

This type of oil and gas basin is equivalent to H.D. Klemme's (1975) category II inland composite basin which holds an important position in the world's major oil and gas fields. According to his statistics [6], there are 23 basins of this particular category in the world, which includes 85 major oil and gas fields, accounting for 25 percent of the petroleum reserves, 66 percent of the natural gas reserves in the world. By analogy, the same kind of basins in China must hold great prospects.

## (2) Intracratonic Rifted Basins

China's Bohai Gulf Oil Province extends from the Jiaozhou-Liaodong Uplift in the east to the Taihang Mountain Uplift in the west, and stretches south to north between the Qinling Fold Zone and Yanshanian Fold Zone, covering about 200,000 square km in area. It is a Meso-Cenozoic rifted hydrocarbon-bearing basin which had developed in North China after the Paleozoic era. Its chief regional geological features are as follows:

1. Volcanic effusion began in the Jurassic and Cretaceous periods, and continued to the early Tertiary period; the extrusives consisted of basalt and andesites; some places formed cycles of basic-intermediate volcanics to pyroclastics, which became prospective oil reservoirs.
2. The interior of the region is characterized by very weak folds and fractured growth. Statistics reveal that the Tertiary system layout was controlled by some 50 major faults during the Tertiary period and early stages; and almost all of them were composed of normal faults characterized by early growth, long extensions, and great downthrow, as well as multistage volcanic activities. For example, the Tertiary layout was controlled by the Niudong, Lundong, Liulan Faults. The faults measure 100-250 km; the downthrow of the Paleozoic top surface is 5,000-7,000 meters, and bead-string form volcanics are distributed along the faults. The fault strike generally falls into two groups, i.e., the NNE and NW groups, which cut the basin into countless blocks, thus forming into various kinds of ancient buried-hill or buried-hill/anticlinal composite type oil and gas fields.
3. The interior of the region has higher temperature gradient than the cratonic basin, e.g., Central Hebei, Jiyang and Jianghan Depressions are generally 3.1-3.9 degrees Centigrade per 100 meters, which is higher than the Shaanxi-Gansu-Ningxia Basin and Sichuan Basin.

4. Based on seismic surveys and gravimetric data computations, the crust is 28-32 km thick in the Xialiao River-Liaodong transition zone, 36 km in the North China Plain, 24-32 km in Bohai-Liaodong Gulfs, and the mean crustal thickness is 40 km in the Shanxi region. The widespread development of Tertiary and Quaternary volcanic rocks along fault block margins are mainly composed of trachyandesite basalt, rizzonite, olivine basalt, etc, which belong to the calc-alkaline magmatic series. It is conjectured that the magma comes from the deeper reaches of the upper mantle (7).

The preceding information indicates that the formation of cratonic rifted basins in the eastern part of our country was evidently related to the subduction and compression of the Pacific Plate against the eastern portion of our country which began in the Yanshanian stage and lasted until the Tertiary period. The South Korean-Variscian-Wuyi superimposed volcanic arc was formed over the subduction zone. Meanwhile, the Songliao-North-China-Jianghan Basin, which was situated at the edge of the continent, caused the upper mantle to upwarp behind the volcanic arc. The early stage consisted of thermal upwarping, the tensile stretching and attenuation of the upper brittle crust, and the occurrence of normal fault. This was followed by fault block downcasting and rift formation in the middle stage which caused the basin to be underfilled and thus produced favorable conditions for oil formation. Finally, the Tertiary basin underwent subsidence and became filled with deposits in the late stage. The preceding three stages constituted the formation process and mechanism of the North China cratonic rifted basin. This type of basin was characterized by fast sedimentation and stable lacustrine water area, as well as rich accumulations of organic substances.

Under high ground temperature conditions, the organic matter became fully transformed, and basins of all sizes could form into rich oil and gas fields, e.g., the large oilfields of Cenozoic paleo-reserves in Renqiu, and the small but high-yield basins in Nanyang. As exploratory efforts for this type of rifted basins are continued on the vast expanse of the North China Plate, new discoveries are expected to come up in the future.

### (3) Backarc Basins

The Songliao Basin falls under this category. During the Variscian stage, its basement was formed from a contracted trough, became upwarped in the Triassic period, and finally evolved into a rifted basin in the Jurassic period. During the Cretaceous period, it became a subsidence basin behind the Dahingan Volcanic Arc and the Nadanhadaling Volcanic Arc. Extensive deposition was at its zenith in the lower Cretaceous series from the Quantou Group to the Nengjiang Group, and the sedimentation ranged 150,000-200,000 square km, thus constituting excellent conditions for the formation of petroleum. The total thickness of the Cretaceous formation is approximately 5,000 meters. It was the Yanshanian movement of the late Cretaceous period that basically gave form to the tectonic framework of the basin's interior as we know it today.

Among the same category of basins, the North Jiangsu-South Yellow Sea Basin deserves mentioning here. It covers more than 100,000 square km, and at least



4,000-5,000 meters of Cenozoic sedimentation have accumulated in the depression zone which runs from south to north. In Northern Jiangsu, black shale measuring over 800 meters thick has been discovered in exploratory wells. In off-shore drilling wells, gray-black mudrocks as thick as 243 meters are also present in the lower Tertiary system which also contains sea facies fossils equivalent to the Funing Group. In the South Yellow Sea, the Mesozoic formation is situated behind the Variscian-Wayi Yunkai superimposed volcanic arc and constitutes a backarc basin. In the Jurassic-Cretaceous periods, the subsidence basin had the same conditions as the Songliao Basin. In the early Tertiary period, it was a downthrow rifted basin, and other geological conditions were similar to north China. It is predicted that further exploration of this region will lead to major discoveries.

#### (4) Contraction Sea Basin

The Xinjiang-Junggar Basin belongs to this category. In the northwest fringe of the basin, the basement was formed through folding and metamorphism of the lower Carboniferous series: it accumulated 2,500-3,000 meters of middle and upper Carboniferous series composed of volcanic lava, liparite and andesite, and land facies arenaceous psophite, and the Permian system became a piedmont deposit. But the Permian system in the southern fringe of the basin became a lacustrine facies deposit composed chiefly of gray-green mudstone with interbeddings of oil shale and feldspathic sandstone, measuring 4,000-6,000 meters thick, thus evolving into an excellent source bed. The land facies development continued in the Mesozoic era, and two more series of olefiant rock strata were formed in the Jurassic system and lower Tertiary system. Altogether, the accumulative thickness of the three series of olefiant strata reached as much as 2,700 meters. Such thick series of olefiant rock strata are rarely found in other basins, which may very well be attributed to the high settling velocity of the basin. Moreover, there are two other contemporaneous basins of the same tectogenesis, i.e., Erlian Basin and Songliao Basin. Erlian Basin is not only large in size, but also has excellent oil and gas indications. During the Variscan stage, the Songliao Basin and Junggar Basin were very similar both in historical process of formation and tectonic framework. Both had intercratonic basins which were not completely closed in the same places where two plates had collided; the mountain systems in the northern fringes of the basins were formed early; during the late Variscan stage, the sea water receded southwards; in the late Permian period, both of them became land facies sedimentation structures. It is a pity that the volcanic activity that erupted in the eastern part of China during the late Mesozoic era caused detrimental effects to the petrolierous character of Songliao Basin's Permian system. If the Permian system at the downthrow center of Songliao Basin had remained free of metamorphic changes, it would also be a prospective target of the future.

#### (5) Suture Belt Intermontane Basins

During the Variscan stage, the Caidam Basin had the embryonic form of a backarc basin. In the Triassic period, it underwent denudation and became an intermontane basin in the Jurassic period when the southern fringe rose while the northern fringe fell in a downthrow. Meanwhile, an olefiant depression was formed in the

southern fringes of the Altun and Qilian Mountains. Affected by the Indian Plate collision during the Tertiary period, the basin underwent very deep settlement; the sedimentary rocks became over 7,000 meters thick, and gave rise to very thick source beds in the Oligocene Group.

The North Xizang Basin also has the same type of tectonic framework. It was a backarc basin in the Indosinian stage, and evolved into a suture belt intermontane basin in the late Yanshanian stage. Excellent olefiant conditions are found in the upper Permian series to the mid-Jurassic series. Besides, broad and gentle-sloped anticlines were also discovered in the basin's interior. Thus, the basin should hold great prospects.

#### (6) Deltaic Basins

The East China Sea and Taiwan-Pearl River Mouth are two late Tertiary deltaic sedimentary basins which were formed by Changjiang and Pearl Rivers emptying into the sea. Both are deltaic basins resulting from the continental rivers flowing into the marginal sea while the continent underwent accretion. Elsewhere in the world today, this type of oil and gas basin can also be found in the Mexican Gulf and Nigeria where Meso-Cenozoic oil and gas basins are endowed with rich petroleum reserves. This type of sedimentary basin enjoys great prospects in our country and constitutes a new domain which merits our attention.

#### (7) Single-Cycle Cratonic Basin

On the South China Plate, there are nonmetamorphic Paleozoic carbonatite rocks distributed over several hundred thousand square km of land which fall within this category of basins. From the Paleozoic era to the early Mesozoic era, it was an epicontinental shelf region with oil-formation conditions similar to the Sichuan Basin; but as its final stage failed to produce land facies of the second cycle in the Meso-Cenozoic era which was required for the formation of overlying strata, the basin lacked adequate preservation conditions. But in the Nanpanjiang Region, the Paleozoic Group is fully developed; the Permian system has bioherms extending as far as several hundred km, and there are overlying strata on top composed of arenaceous shales of the mid-Triassic Pingerguan Group. If a breakthrough should occur in the exploration of this region, it will open up a new domain for oil and gas prospecting work in the same type of basins as the one found in South China.

#### Brief Summary

Based on information from our predecessors, this article presents a bold attempt to classify China's oil and gas basins through the application of the theory of plate tectonics. In the preliminary view of the authors, the oil and gas basins in China were gradually formed in the course of interaction between the five tectonic plates on the Chinese continent and the three surrounding large plates. The Variscian stage was an important period in the formation of large basins in the northwestern and northern parts of China. In the Indosinian stage, the Shaanxi-Gansu-Ningxia and Sichuan cratonic polycyclic basins were formed.

During the Yanshanian-Himalayan stage, basins related to the arc-trench system were formed in the southeast coastal sea area.

Based on the mechanism of the plate tectonic movement, the preceding basins can be divided into 10 prototypes in 5 categories. Of all these basins, the exploration of intracratonic polycyclic basins should be given priority. Next, the exploration of oil-rich contraction sea basins and backarc composite basins should be further enhanced. The submarine deltaic basins along the Chinese continental margin and the intracratonic single cycle basins in South China are also new areas of exploration, and positive efforts should also be made in that direction. There are prospects for major discoveries.

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CSO: 4006/242

ENERGY

'SHANXI RIBAO' REPORTS ON PROVINCIAL COAL CONFERENCE

HK230244 Taiyuan SHANXI RIBAO in Chinese 10 Apr 81 p 1

[Report: "Bravely Lift Heavy Burdens for the Four Modernizations and Produce More Coal as a Contribution"]

[Text] The following has been decided on by the Shanxi Provincial Coal Conference: Coal miners throughout the province should be organized to carry forward the honorable tradition of being a contingent of especially good fighters, to bring their strong points into play in developing the whole situation, to lift heavy burdens as a contribution toward maintaining the country's annual coal output at 600 million tons, to firmly accomplish this year's state assignment of producing 110.44 million tons of coal and the tasks of quickening the speed of readjustment and the speed of building new pits, and to do their best to earn greater income and save expenses so as to accumulate and save more capital funds for the state.

The Shanxi Provincial Coal Conference was held in Taiyuan from 26 March to 3 April. Present were more than 350 people including responsible persons, engineers, technicians and technical cadres of the provincial and local state-run coal mines. They unanimously agreed that this conference had been held in good time and was an occasion to more conscientiously study and carry out the guidelines of the central work conference. After summing up experience, analyzing the current situation, exchanging information and drawing up measures, the conference concretely assigned the tasks of quickening the speed of readjustment and the speed of building new pits as put forth by the national coal conference. It was a conference to boost morale, to strengthen confidence and to build our province as quickly as possible into a strong base for coal production.

When the conference was in session, responsible comrades of the Shanxi Provincial CCP Committee and the provincial people's government came and delivered speeches.

The conference held that whether in fulfilling or overfulfilling the current tasks of coal production or in quickening construction of the coal production bases, it is necessary to have the cardinal principles in mind, take the overall situation into account and look at a locality by adopting an overall point of view, so as to see clearly the position held and the role played by Shanxi's coal mines in the country's development of energy resources. Last year, Shanxi's

coal output was one-fifth of the country's output, and more than 73 million tons of coal were shipped out of the province, accounting for over 50 percent of the country's total tonnage of coal shipped from one province to another. At present, about 200,000 tons of coal are shipped out of the province every day, playing a major role in meeting the energy needs of more than 20 provinces and municipalities. This year, to maintain the national coal output at 600 million tons, the state has assigned our province a greater task of coal production than last year and a rather heavy burden regarding the readjustment of coal production and the construction of new coal pits. These are needed by the overall situation and should be accomplished without fail. After discussing and analyzing the conditions for accomplishing these tasks, the conference unanimously held that favorable conditions and positive factors exist in many aspects and play the leading role and that unfavorable conditions also exist and difficulties lie ahead, but these unfavorable conditions may be changed and difficulties overcome after a process of hard work. In particular, the central authorities and the relevant departments in Shanxi support and guide the development of Shanxi's coal production. Despite the state's financial difficulties and the drastic reduction in the state's investment in capital construction, this year's state allotment of investment in Shanxi's coal production tops last year's figure by 22 million yuan. The state has also vigorously furnished productive equipment and technical guidance. The relevant departments in Shanxi manufacture and repair mining equipment and improve transportation conditions and goods supply for the coal mines, coordinate their activities with the production and readjustment of the coal mines, and help build coal production bases.

The conference held that after a long course of hard work, a network of coal mines of varying scales has taken shape in the province. Among these coal mines, the big mines operated by the state are the mainstay, whose output accounts for more than 50 percent of the province's coal output. To guarantee fulfillment of the task of turning over coal to the state and to quicken construction of the coal production bases, it is necessary to uphold the correct policy of combining the big, medium-sized and small coal mines. The small mines should be taught to concede to the big mines and refrain from vying with them for material resources and creating difficulties for them. At the same time, the big mines should be encouraged to take the whole situation into account, to draw up overall plans for the mining areas and to help the small mines. In this way, the big, medium-sized and small mines will get what they want and will work concertedly. In making readjustments, the big, medium-sized and small mines should proceed from reality to grasp the key points. Local mines and those run by communes and production teams should pay particular attention to adopting safety measures, improving the methods of coal extraction, increasing the ability to fight natural disaster, heightening coal recovery, insuring the coal miners' safety and protecting the state's material resources. All coal mines in the province must uphold the "safety first" policy, establish a strict system of responsibility for safety in production, seriously enforce the safety rules, give priority to the arrangement and fulfillment of the safety measures, and strive to insure safety in production, in preparation for the national conference to give rewards for safety in coal production to be held in our province.

The conference clearly pointed out: Efforts should be made to give full play to the strong points, contribute a greater share and lift heavy burdens in the

interest of the whole. The key to fulfilling and overfulfilling this year's tasks of coal production lies in our efforts to uphold the four basic principles, to firmly carry out the line and general and specific policies set forth by the 3d Plenary Session of the 11th Central Committee of the party, to strengthen political and ideological work and to reinforce building of a leading group and a contingent of staff and workers. The system requiring chiefs of mining bureaus and coal mines to take responsibility should be upheld under the leadership of the party committee. The role of party organizations at all levels as fighting bastions and party members as vanguards and models should be brought into play. The role of engineers and technicians should also be brought into play. Scientific research should be strengthened and all staff members and workers given technical training. Working with a good style, contributing a greater share and going down to work in the pit should be regarded as glory. Working at full attendance should be regarded as glory. Learning cultural, scientific and technical knowledge and enterprise management should be regarded as glory. Obeying orders, observing discipline and stressing civility and courtesy should be regarded as glory. Comrades attending the conference reviewed and talked about their experiences and cited living facts to show that Shanxi's coal miners warmly love the party and socialism and their work, can endure hardships and have rich practical experience, that they have the cardinal principles in mind and take the overall situation into consideration, and that they do not fear hardships but bravely lift heavy burdens and are trustworthy. They are a reliable guarantee for us in continuously creating new achievements and winning new victories in our advance.

CSO: 4006/340

## ENERGY

### BRIEFS

**ATOMIC INDUSTRY EXHIBITION**--Beijing, 12 Apr (XINHUA)--The China Atomic Energy Industrial Company recently held the first exhibition of its products at the exhibition hall of the Ministry of Building Materials in Beijing. Among some 400 products on display were special products of China's nuclear industry as well as general-purpose products including various types of radioisotopes, isotopic meters and instruments, optical instruments, special valves, radioactive agents and isotope generators. These products are now used extensively in such fields as industry, agriculture, medical science, scientific research environmental protection, archeology and criminal investigation. [Beijing XINHUA Domestic Service in Chinese 1144 GMT 12 Apr 81 OW]

**HENAN MUNICIPALITY ENERGY**--From January 1980 to the end of March 1981, the people in Pingdingshan Municipality saved 76,800 tons of coal and 39 million kilowatt-hours of electricity. Many units in the municipality have popularized the advanced technology of saving energy in some links which consumed more energy. So far, the whole municipality has popularized 25 types of new technology for saving energy including increasing heat with infrared rays. Some 301 sets of equipment have also been transformed. [HK201448 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 13 Apr 81]

CSO: 4006/340

INDUSTRY

SHANGHAI LIGHT INDUSTRY BREAKS PRODUCTION RECORD

Shanghai JIEFANG RIBAO in Chinese 2 Apr 81 p 1

[Article by JIEFANG RIBAO reporter, Tang Rencheng [0781 0088 2110]]

[Text] The system of factories under the Shanghai Municipal Bureau of Light Industry achieved the highest monthly output in March. Its gross output value is up by 6.2 percent over that of the same period a year ago, exceeding by 4.3 percent the highest monthly output ever reached in history. The volume of the nine popular products, such as bicycles, has also surpassed that of the same period last year. Statistics show that by the end of last March, they produced 70,000 more clocks, 216,000 more watches, 40,000 more bicycles, 25,000 more sewing machines, 850 tons more beer, 65,000 more pairs of eyeglasses, 9,700 more cameras, 870,000 more filtered cigarettes and 260,000 more rolls of film. Realizing the importance of producing more daily necessities, the party committee of the bureau held two meetings of company managers to coordinate their thinking and boost their sense of responsibility. Each company, in turn, launched its drive to work out measures commensurable with the circumstances to step up its production in order to help the state cope with its problems. The Rihua Company which slipped back in production during last January and February due to shortage of gas and steam was able to mobilize the masses to recoup the losses in March. Having resolved its problems and difficulties in production, it finally reached the highest record of production in the very month, showing an increase of 10.8 percent over that of the same month a year ago.

The entire system of factories under the bureau, resolved to restructure its products to meet market demand, turned its attention to 100 light industry items urgently demanded by the market but short of supply. Each company has been doing its best to carry out its own readjustment. The Bicycle Company is developing its medium-high grade products for domestic need and export. The output of its medium-high grade products was up 33 percent in March over that of the same period last year, higher than the average increase. The ratio of the medium-high grade items produced is up from 33.8 percent a year ago to 43.3 percent. The output of the most popular brands, such as "Fenghuang" 18 and 20, "Yungjiu" 13 and Feida, has gone up by 20-300 percent respectively over that of the same period last year. The first consignment of bicycle export to the United States was delivered by the end of last March.

In spite of the record achievement in March, the party committee of the bureau, which never relents, immediately held a meeting of its cadres of the entire system to review the work of the first season and plan for the second. To achieve even greater increase in the second season, it will launch a drive for more production and the practice of economy, more income at a lower cost.

## INDUSTRY

### NEW CHEMICAL INDUSTRY TECHNOLOGY POLICIES DISCUSSED

Beijing GUANGMING RIBAO in Chinese 7 Apr 81 p 2

[Article by Yin Delin [0603 1795 2651] and Wu Shimin [0702 0013 2404]]

[Text] The chemical industry of our country has grown enormously in the past 30 years. There are over 7,000 chemical plants in both coastal and inland areas, forming 18 chemical industry centers. They are the foundation for achieving modernization of our chemical industry.

However, most of these plants have not advanced beyond the 1950's level with the exception of a few which have installed newer synthetic ammonia and ethylene equipment. The industry is now beset by such problems as excessive energy consumption, poor quality, lack of variety and serious pollution. For instance, although our country ranks third, behind only the United States and the Soviet Union, in chemical fertilizer production, with an annual output of over 10 million tons, the coal consumed as energy to produce synthetic ammonia is 25-75 percent higher than in most foreign countries. Statistics show the annual losses sustained by our agriculture due to plant diseases, insect and weed pests are as high as 20 percent of the crops or even as high as one-third in serious cases. We annually produce over 500,000 tons of pesticides but they are limited to a little over 100 varieties and most of them are available for allocation in small quantities only. Some insects have developed stubborn resistance to those pesticides which are limited in variety and form. We also produce an enormous amount of dyestuff. However, due to lack of variety, especially lack of high grade dyestuffs, the light and textile industry departments have to spend close to \$100 million every year to import dyestuffs. These instances demonstrate that the major drawbacks of our chemical industry are backwardness in technology and lack of variety. During the progress of the readjustment of the national economy, the industry has to make full use of its existing facilities to develop new technology and new products and increase the production of those products which support agriculture and light industry.

In the past 2 years, many chemical plants have made substantial accomplishments in reinforcing their new technology, in researching, manufacturing and promoting new products. In trying its best to manufacture high-grade dyestuffs for chemical fabrics, it has turned out over 80 new brands. Its output value has increased by 100 million yuan even though its annual output of dyestuff

has gone down by 10,000 tons. It is necessary to adopt new measures with the effect of a new policy to support the development of new technology and products. We would like to offer the following observations for public discussion.

First, formulate suitable programs and measures for the development of new technology. However, there are various factors in actual operations which obstruct the development of new products and the introduction of new technology. These include rushing headlong into mass actions but leaving things unsettled in the face of difficulties; pursuing a single target and overstressing advanced technology without considering comprehensive economic ramifications; and lack of coordination of various programs and plans. Consequently, positive actions are required in four different areas. First, organize a force to study thoroughly all the requirements, resources and existing conditions of the industry to provide a basis to examine comprehensively the market demands, economic efficiency and benefit and technological feasibility in order to make a program realistic and practicable. Second, the program in question which constitutes a major part of the plan for the development of production and technology should be implemented in the current fiscal year. Third, do away with all departmental and regional barriers to allow all the favorable factors to come into full play for the realization of a unified program based on mutual help and mutual benefit. Fourth, revise the program annually to accommodate actual changes.

Second, the development of new products, kept within the framework of the readjustment, should be coordinated with and helpful to the readjustment. The manufacture of pesticides, dyestuffs, paint and rubber is the kind of chemical industry where the smaller plants crowd out the big ones by repeating the production of what they specialize in. As a result, they are overstocked with unmarketable products but unable to come up with what the market demands. Consequently, when the industry undergoes readjustment, there must be a uniform program not stifled by the regional ownership system. Better equipped factories should be made responsible to manufacture those varieties of products likely to be overstocked. Select some well-equipped factories and workshops to make use of their existing factory buildings, equipment, public utility and general facilities, plus a limited amount of necessary special equipment, to produce new products. The state should assist those factories switching to the manufacture of new products to cope with a temporary drop in their output value and profit on the one hand and a bigger workload on the other. This may include a reduction of production quotas, low interest or interest-free loans by banks and bonuses to their staff and workers during the switch.

Third, enforce a reasonable price and tax policy to encourage the production of new products and the introduction of new technology. "Di Baichong" is one of the major pesticides produced in huge quantities in our country. Since this product is sold in crude cake form in poor packages, it causes severe pollution during shipment and wastefulness in application. A technological research unit has succeeded in treating 80 percent of the wettable powder in the pesticide and has worked out a better packaging, safer shipment and more efficient application of the product. Although this hiked

up its per ton cost by 30 yuan, the loss is offset by overall economic gains brought about by better workmanship and reduction of losses in shipment and application. But the failure of the commercial departments to enforce a policy of better price for better products has killed the enthusiasm of the factories to introduce new technology and arrested the development of this new product. The tax policy should encourage and support the development of new products and the introduction of new technology. An enterprise working to develop a new product it has never before produced and adopt a new technology it has never before used should be given time to experiment with its test manufacture. If there were not encouragement, the enterprise would not want to take risks. Consequently, we suggest that besides granting tax exemptions to new products, tax reduction or exemption for 1-2 years may also be extended to those enterprises which work actively to adopt new technology, lower energy and raw material consumption and produce improved old products which earn foreign exchange. Any enterprise which undertakes to produce a product it has never before produced should be accorded tax reductions or exemptions during the period of its test manufacture.

Fourth, secure the source capital required for the development of new products and the introduction of new technology. This implied two items of expenditure, one for research and test manufacture and the other for the cost of actual production. As a matter of principle, the enterprise concerned ought to raise its own funds to cover these expenditures. However, we suggest the expenditure for research and test manufacture of new products (including research and test manufacture either by the enterprise itself or another authorized unit) may be considered a part of the operating cost of actual production. The enterprise should be allowed to withhold .05-1 percent of its annual gross output value or gross sale as funds for technological development and consider them as a part of the production cost. The authority in charge may appropriate a small portion of funds for research and development work by a locality or by itself. The higher authorities may use any part of the funds not used or left over by the enterprise. The expenditure for the actual production of a new product or introduction of a new technology ought to be borne by the enterprise concerned but the state may provide it with low interest or interest-free loans.

Fifth, the best way to help an enterprise develop new technology and new products is to bring about technical cooperation or joint technological ventures with factories, research units and colleges. The Sichuan Chemical Industry Plant which cooperates with Qinghua University, the Southwestern Institute of Chemical Industry and the First Chemical Industry Planning Institute of Sichuan has been able to improve its old equipment and old technology 3 times and increase its productive capacity 2.5 times and raise its labor productivity by 175 percent. The Carbon Black Research Institute and the Carbon Black Plant of Zigong, desirous to maintain a long-term cooperation, signed a 5-year technological joint venture agreement last year. The institute which plans to popularize its research achievements in the carbon black factory hopes to multiply the variety of products from 3 to 10 and boost its profit from 1 million yuan to 3 million yuan in 5 years. In return, the carbon black plant pays the institute its research expenditure and a given percentage of profit.

## INDUSTRY

### JINGJI GUANLI ON DEVELOPING TEXTILE INDUSTRY

HK280343 Beijing JINGJI GUANLI in Chinese, No 4, 15 Apr 81 pp 13-16, 21

[Article by the research department of the Ministry of Textile Industry: "Implement the Guiding Principle of Readjustment, Keep Up the Steady Development of Textile Industry"--note slantlines denote boldface type]

#### [Text] The Situation and Task of the Textile Industry

Since the 3d plenary session of the 11th Party Central Committee, we have had not only a vigorous political situation in which stability and unity have been achieved, but also an excellent economic situation that has never been seen since the founding of the People's Republic of China. In particular, we have unified our understanding and corrected our ideological line in the longstanding "leftist" mistakes in our economic work, thus guaranteeing the healthy and steady development of the national economy in the future.

The situation on the textile industrial front is also excellent. The state has implemented the measures of "six priorities" in the light and textile industry to enthusiastically support the development of the textile industry. Textile industrial departments and enterprises in the localities exploit to the fullest extent the resources of raw materials, strictly adhere to the principle of increasing production and practicing economy and strive hard to enhance economic efficiency. Good results have been achieved.

//First, production has risen steadily. Profits, exports and various economic technological quotas have reached a new level.// According to preliminary statistics, in 1980, the total industrial output value of the textile industrial system increased by 23 percent over 1979. There was a rather notable increase in various major textile products. Chemical fibre increased by 36.5 percent, cotton yarn by 10.4 percent, cotton cloth by 9.6 percent, woollen goods by 11.7 percent, and knitting woollens by 23.1 percent. The tax and profits realized throughout the year of 1980 increased by 23 percent over 1979. The major economic technological quotas of the textile industry also recorded a new high.

//Second, there have been new developments in the quality and variety of products.// The plan for the products belonging to the 9 big categories and 15 quality quotas examined by the state has been overfulfilled. It has surpassed the actual level of 1979. For more than 2 years, each locality has been creating the conditions of

being known for the brands of its products and producing superior products. Good results have been achieved. Products with a variety of more than 30,000 colors and designs are put into production per year. The textile industrial system throughout the country has named 1,714 superior products and 328 famous-brand products. More than 80 products have won national quality awards. The quality and variety of products in the old textile industrial bases have also undergone new development. Famous-brand products and superior products bearing their own characteristics can also be found in the outlying regions and in the regions of the minority nationalities. Products in short supply which are to the people's liking and most sought after such as medium and long fiber fabrics, polyester long silk fabrics, knitting woollens and silk quilt covers have rapidly increased. Cloth for decoration and tourist products have further developed.

//Third, the plan for capital construction has been fulfilled, the investment results have been enhanced.// Of the 34 large and medium sized projects arranged for construction in 1980, 5 have been completed, checked and accepted. Of the 13 projects to be put into production, 3 have been plunged into production, with the remaining 10 being partially plunged into production.

Most of the key projects in the capital construction of chemical fibers have entered the stage of completion and production. There has been rapid development in the textile processing capability, and there have also been new developments in the capability to produce woollen textiles and handle cotton polyester after being printed and dyed.

//Fourth, the trial-point reform of the economic system has pushed forward production.// The trial-point expansion of autonomy in enterprises has further brought into play the initiative of the staff and workers of the enterprises. Production profits have increased to by a larger margin than before the enlargement of autonomy.

Under the planned guidance of the state, the textile departments in various localities have done a good job in market investigation, run experimental sales departments for new products, carried out all kinds of exhibition and sales activities, exercised the principle of establishing direct contacts between factories and shops, strengthened the coordination between industry and commerce, built closer relations between production and demand, and brought about enhancement of the quality of products, development of the variety of products and prosperity to the market.

Cotton textile trades and woollen and linen textile enterprises have reformed their working system, and exercised the principle of "working in four shifts with the same operational results as three shifts." As a result, the production level has gone up by about 10 percent. The (Dang Che) [2346 6508] workers in some regions are implementing piece rate wages on a trial basis.

After implementing the principle of profit retention for the enterprises' own use, the enterprises can have some self-allocated funds. They have begun to pay back the debts in production and livelihood, and the livelihood of the staff and workers is beginning to improve. According to incomplete statistics, the area being

constructed for the dormitories of the staff and workers last year was 3.55 million square meters, with 1.67 million square meters having been completed. Never before has any construction for the staff and workers' dormitories on such a large scale been carried out since the founding of the People's Republic of China.

//Fifth. Work in scientific research and education has been strengthened. Investment in the fields of scientific research and education have increased.// The number of textile research institutes above the municipalities under the jurisdiction of the provincial governments throughout the country rose from 48 in 1979 to 83 in 1980. Specialized scientific research personnel increased by 89 percent. The combination of specialized and mass scientific research work has accelerated the progress of scientific research. At the meeting to report on the scientific and technological results of the national textile industry convened at the end of last year, rewards were issued for more than 300 successful projects. Textile colleges are undergoing rapid rehabilitation and development, and the students who are still studying at these colleges have the highest standards since the founding of the People's Republic of China.

But we must also realize that at present there are still some problems in the textile industry. 1) Though production has developed fairly rapidly, it still cannot meet the demands in the national economy and for the improvement of the people's livelihood. Many textile products are in short supply, especially with the lack of variety in colors and designs, contradictions have become even more outstanding. 2) There are still many weakpoints within the major trades themselves. The arrangements after printing and dyeing, woollen textiles and knitted chemical fibers are still the weakpoints of various trades and enterprises. There is a rather large gap between districts and enterprises. Outstanding accounts in production and livelihood remain to be settled. 3) In production, there is still the question of paying too much attention to output, output value and profits, and a tendency to concentrate blindly on the development speed. Thus the quality and variety of products and overall economic results are affected. 4) There is not enough centralized unification in capital construction, but to some extent, there is the tendency to act blindly and of decentralization.

In view of the above situation, in the readjustment of the national economy, the textile industry must, on the one hand, readjust its relations with other departments of the national economy to adapt itself to the demands of the state and the people. On the other hand, it must readjust well the relations within the departments of the textile industry itself in order to rationalize the structure of trades, the layout of districts and the level of organization and to stabilize and consolidate its own foundation. The textile industry must be able to progress steadily and healthily.

## 2. Increase Production and Practice Economy, Realize an Increase in Speed of 8 Percent in Textile Industry.

The target of readjusting the national economy this year is the balance of revenue and expenditure, the balance of credit and basic stability in the prices of goods. In order to realize this target, we must live within our means. But from a long

term point of view, we must not rely only on reducing expenditure. It is most important to develop production and increase revenue. The key question is to raise economic results and benefits. In the light of the requirements for readjusting the national economy, the increase in the speed of the light and textile industry should reach and, if possible, surpass 8 percent. This is the primary task of production and construction work in the textile industry this year.

We must fully exploit the resources, practice economy, tap potential and implement further the work of increasing production. In order to make production develop steadily and healthily, we must pay attention to the following points in our work:

//First, we must persist in the attitude of seeking truth from facts to attain a realistic speed.// The 8 percent increase in speed is the general requirement put forward by the state for the textile industry throughout the country. Each district, trade and enterprise has different conditions and foundations. They must fix their own increase in speed in the light of their specific conditions.

//Second, we must strictly check the quality of products.// The quality of China's textile products is still low, the variety of colors and designs is simple, if compared to the demands of the market at home and abroad, and to the advanced world level. In addition, the development among districts and among enterprises is not even. Following the increased income of the people in the cities and the countryside, the standard of living has gone up. The people have higher requirements for the quality of products and in the choice of the variety of colors and designs. Therefore we must grasp firmly the question of quality and variety of products and never relax the work of improving the quality and increasing the variety of products even though production tasks are arduous.

//Third. We must really be able to make our products suitable for marketing.// By increasing production, we mean that we must increase the products which are suitable for marketing. There are different requirements for textile products sold to the people in the cities and countryside, male and female, young and old, and needed by the domestic market and for foreign trade. Generally speaking, the countryside needs fine and cheap medium and low-grade products, while more medium and high-grade products are needed by the cities and for export. People in different districts and of different economic levels have different tastes in the choice of products. Some units have now even gone so far as to concentrate their efforts on producing high-grade products for the purpose of getting profits and rewards. In fact, the income levels and burden of the Chinese people vary very much. High, medium and low-grade products should be produced. This can really be called considering the interests of the masses. We must strengthen market investigation, find out about the requirements of different consumers, know in time about the market situation and changes and produce products that are suitable for marketing.

//Fourth, ensure safety in production, be concerned about the livelihood of staff and workers.// The more arduous the production tasks are, the more attention we should pay to ensuring safety in production. The various tasks and requirements put forward at the meeting concerning the safety work of the textile system throughout the country convened in November of last year, must conscientiously be

implemented and fulfilled on schedule. Enterprises producing chemical fibers are vulnerable to fire and explosions, so more attention should be paid to ensuring safety in production. The work of textile workers is very strenuous and tiring, and attention must be paid to striking a proper balance between work and rest. It is not advisable to work overtime. Regular maintenance work must be strengthened. We must not rest on what has been achieved by the laborers, nor must we rest on the present condition of our equipment.

//Fifth, practice strict economy.// Economizing on raw materials and energy and cutting down expenditure are in reality increasing production. The economic results of producing more products by means of the same resources are better than those of simple increasing production. Particularly in the chemical fiber trade, the potential for economizing on raw materials and energy is very great. When organizing production in the localities, waste by any means must resolutely be stopped. Various effective measures must be implemented to reduce consumption and cost, make up deficits and increase surpluses, and increase production by practicing economy.

### 3. Readjust Capital Construction in Textile Industry in Accordance with the Principle of Centralized Unification

One important aspect in readjusting the national economy is to reduce the scale of capital construction. This year's funds for capital construction in the textile industry have been substantially reduced. Therefore we must carry out readjustment in capital construction; there must be ups and downs, advance and retreat. Construction projects with overextended fronts and unfeasible conditions must be stopped. Construction projects which are urgently needed in production and which have good conditions and yield quick results must be carried on by every possible means. Through readjustment, improving the structure of trade and the layout of districts, we must arrange well the coordination of internal production capability to lay a foundation for the steady development of the textile industry in the future. Therefore, we must concentrate our efforts on doing a good job in the construction of key chemical fiber projects. In particular, raw materials for chemical fibers must be brought into full play. Gradually transform the trade structure of the textile industry and develop the production of key products which are urgently needed by the market. The construction scale of the cotton textile industry must be reduced and great importance must be attached to the development of the woollen textile industry. We must continue to strengthen our weakpoints and pay close attention to the work of arrangement after printing and dyeing in various trades. Especially the work of final arrangement of colored fabrics, medium and long fiber fabrics and synthetic woollen products such as chemical fiber knitted goods, and so on, must be grasped firmly. The demarcation line between departments and trades must be broken. We must centralize the layout of developing key products in Beijing, Tianjin, Shanghai and some major cities. We must strive hard to raise the economic results of the investments in capital construction, and on the basis of guaranteeing project quality, quicken the pace of construction and achieve results and benefits as soon as possible. We must do well the work remaining to be done after projects have been suspended and postponed and pay enough attention to the receipt, transport and storage of equipment in order to prevent losses. Property and materials must be well taken care of. Proper arrangements must be made for the placement of staff and workers in order to set their minds at rest.

In order to ensure the implementation of the readjustment principle, a high degree of centralized unification must be exercised in capital construction, and the state plan and arrangements must be observed. To supplement the resolute implementation of the rules laid down by the state construction commission concerning the prevention of blind and duplicate construction, we propose the following points in the light of the specific conditions of the textile industry:

//First, major raw materials for the cotton textile, woollen textile and chemical fiber trades should be kept in balance by the state. The products should be purchased and marketed under unified purchase by the state. The construction of production capacity (including that of compensation trade, joint ventures, and so on) should be arranged under the state's unified plan.// Small-scale projects must also have the approval of the ministry of the textile industry and be listed in the state plan. These projects are not to be carried out without abiding by the state plan.

//Second, the planning and arrangements for the linen textile and silk trades should be carried out by the departments in charge at the provincial, municipal and autonomous regional levels according to the conditions of raw materials and resources.// Arrangements for the weaving, knitting and printing and dyeing trades should be carried out within the sphere of the province, municipality and autonomous region according to the balance of cotton yarn and grey cloth. The regions which have the task of allocating the raw materials for linen and silk and of allocating yarn and cloth for transfer to other places must fulfill the task of transfer according to the plan.

//Third. The principle of keeping in line with local conditions and economic rationality must be implemented in the layout of the textile industry, which must be appropriately centralized in accordance with the conditions of the foundation of raw materials, resources and technology on the basis of forming a fixed scale.// Insofar as the scale of enterprises is concerned, that of a cotton textile factory should generally be kept above 30,000 spindles. The scale of the chemical fiber reeling, woollen textile and printing and dyeing enterprises should not be too small either.

//Fourth, the textile industrial departments in charge at the provincial, municipal and autonomous regional levels should take part in the rectification of the commune and brigade run textile enterprises under the leadership of the local party and government departments.// Any enterprise that competes with large factories for raw materials, produces low quality products, is a drain on manpower and material resources and that is technologically backward must be closed, suspended, merged or shifted. When textile factories renew their equipment, the old equipment must not be used for the expansion of production, but must be returned to the textile machinery factory.

//Fifth. In the manufacture of textile machinery, we must carry out the principle of "rational division of labor, specialized production, nation-wide formation of a complete set of equipments and unified allocation."// Any equipment which is related to the increase of production capacity of major trades must be included in the state plan. The production in these major trades will be arranged by the

state, and their products will be allocated by the state. Other equipment, including that in short supply, must also be manufactured according to the plan.

//Sixth, strengthen management over the import of equipment.// Now as China can basically produce its own specialized textile equipment, we are generally not to import complete sets of textile processing equipment. As to the importation of samples of new technological machinery really needed for scientific research and production, and as to the importation of a small number of key equipment that is in short supply and of testing instruments, they must be examined and approved by the departments concerned so as to avoid duplicate importation and to economize on the state's foreign remittances. The already imported equipment must be well taken care of and utilized. Certain persons must be organized for familiarization with the equipment and to absorb the knowledge to utilize the equipment in order to coordinate with the textile machine tool factory in carrying out the drafting and reproduction of the equipments.

//Seventh, we must give appropriate help to outlying districts and minority nationality regions.// The two special zones of Guangdong and Fujian will be dealt with according to the policies concerning the special zones laid down by the Central Committee.

#### 4. Bring Into Full Play the Role of the Present Enterprises, Strive Hard to Enhance the Economic Results

From now on necessary capital construction will, on the one hand, be carried out for the development of the textile industry according to the state plan. But the development of the textile industry should mainly rely on bringing into full play the role of the present enterprises. This is an important principle for developing the textile industry.

//First. Carry on with rectification of enterprises and strengthen management of enterprises.// At present, in the rectification and management of textile industrial enterprises, great importance should be attached to doing a good job in overall economic accounting to enhance economic results. In the production activities of the enterprises, the economic results must be analyzed and compared so as to have the best choice of plan. Now economic accounting is still weak, lacking a complete system and perfect methods. We must do our best to carry out the basic work such as cost calculation, statistics, fixing quotas and making firsthand records. We must regularly and systematically carry out analysis of our economic activities.

//Second, further develop the activities of helping each other and learning from each other.// The year before last, Shanghai helped Hubei, and last year Shanghai helped Henan. They have achieved good results in these activities. After readjusting "upping capacity" to "upping the levels" by the textile industrial department of Jiangsu Province last year, the role of the enterprises was brought into full play. They have carried out the activities of "learn from Shanghai, up the levels" and attained overall economic results. Practice has proved that this is an effective measure for promoting production technology and the management level of the present enterprises, and must be regarded as a strategic task for developing

the textile industry. We are prepared to spend several years doing a good job in the regions where the inland textile industry is comparatively concentrated. This year Shanghai will concentrate its efforts on helping Sichuan, on the basis of helping Hubei and Henan. Each district has its own advanced enterprises, the role of which should be brought into full play.

//Third, technological restructuring must be carried out in the present enterprises in a planned way.// In the light of the specific conditions of our country, the principle of restructuring is mainly carried out in respect of old equipment, with emphasis being laid on the restructuring of key machine tables and principal machine components. Some equipment which is too old and too outmoded may be renewed step by step and in a planned way. In combination with technological restructuring, we must popularize the matured new results in science and technology.

Textile machinery factories and textile equipment factories must be organized and made to serve effectively the technological restructuring of old factories and the popularization of new techniques to raise the quality of spare parts, components and equipment. In addition, in accordance with the demands of the development of production, we should absorb new techniques at home and abroad, and constantly study and manufacture advanced equipment and testing instruments in order to supply new and old factories with better equipment. The old factories' funds for technological restructuring mainly rely on the enterprises' funds for developing production. If possible, funds for various purposes may be made full use of by pooling them together. For these 2 years, the Tianjin yarn-dyed fabric industrial company has pooled the funds for developing production, for depreciation, for maintenance and bank loans together. Good results have been achieved. Production has increased by 60 percent and profits by 83 percent.

//Fourth, carry on with reform which is beneficial to readjustment, consolidate and develop the results of reform.// We must readjust the tax rate on some textile products. Among enterprises, we must overcome the problems of outstanding profit differentials, of hardship and happiness being uneven and of factors that affect the suitable marketing of products. We must study how to readjust the tax rate on a small number of products, under the conditions of not reducing the total tax revenue on the textile industry and of not raising the retail prices of products. From now on, the question of what products to produce and what products not to produce must be related to the role of economic levers such as readjusting the tax rate, and bringing tax revenue and profits into play.

We must study the question of wages issued to the workers on the first front in textile production. The golden period for a textile worker is from the period before her marriage until the birth of her first child. She becomes physically weak as she grows older and when she is physically weak, it is hard for her to earn more money. In the 1950's, the wage system based on personal responsibility, which was rather suitable for the characteristics of textile workers, was exercised among them. But this system has been changed since 1964. We will take this as a special question to be studied this year. We should also reform the methods of rewards and overcome a egalitarianism. If conditions exist, any enterprise may carry out experiments in exercising a wage system based on workpiece.

We should carry on with the experiments in enlarging the autonomy in enterprises. Take the methods of profit retention for example. The enterprises' funds are sometimes mainly retained by the bureau or company, but sometimes by the enterprises themselves. In view of what has been practiced, the results of these two methods are notable. But each method has its own problems. We must conscientiously sum up experience and constantly improve the methods. We must also seriously study the enlargement of autonomy in some other aspects and form complete methods and a perfect system.

We must do a good job of regulation by market mechanism under planned guidance. The Liaoning Textile Bureau, together with commercial departments, has done a good job in sampling and fixing production, and has formed commercial second level stations, third level stations, supply and marketing cooperatives and large fashion factories and grass-roots shops. They have direct contacts and sign contracts with the factories. They have enlivened circulation channels, effectively helped the enterprises enhance the quality of products and improved the variety of colors and designs. As to the question of running experimental sales departments for new products and of factories having direct contacts with shops, we must constantly sum up our experiences, probe new roads and create new experience.

//Fifth, we must adopt every method to train talented personnel.// We are now suffering from a serious shortage of talented personnel. In particular, the lack of management personnel is quite outstanding. We must run well all kinds of schools to speed up the training of talented personnel.

Stability in the economy and tranquillity in politics are dependent on each other and are pushing each other forward. During readjustment, all kinds of ideological problems are sure to emerge, and there are also various factors which are not beneficial to realizing stability. All this must be closely related to the present reality. Propaganda and educational work about the four basic principles must be done well and purpose fully. Young workers have increased in large numbers in the past few years. Ideological and political work must be carried out in accordance with their characteristics. We must regard concern for the well-being of the masses and the solution of the actual problems of the masses as an important component part to be grasped in ideological and political work. We must perfect the system of staff and workers' congresses and bring into full play the role of the trades union, the youth league and the women's federation. We must be concerned about and support their work and unite with the staff and workers to dedicate our efforts to the four modernizations with one heart and one mind.

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## INDUSTRY

### SHANGHAI TEXTILE INDUSTRY REPORTS CONTINUOUS, STEADY GROWTH

Beijing GUANGMING RIBAO in Chinese 6 Apr 81 pp 1, 3

[Article by GUANGMING RIBAO reporter, Jia Shumei (6328 2385 2653)]

[Text] As the whole country looks for a cost efficient way to develop the economy while it undergoes readjustment, the successful experience of the Shanghai textile industry naturally attracts nationwide attention. The textile industry of Shanghai has been growing continually and steadily ever since the liberation at an annual increase rate of over 6.6 percent. Its gross output value in 1980 reached 13 billion yuan, 7.3 times that of 1949. In the last 31 years, the industry surrendered to the state over 50 billion yuan in profit and tax even though the state investment in the industry was only 600 million yuan--only 1.1 percent of the profit and tax.

Although the number of spindles, the number of workers and the fixed assets of Shanghai's textile industry amount to only about 13 percent of the national total, its gross output value is 21 percent of the latter. Measured against the national total for the entire industry, it pays to the state 29 percent of the profit and tax and its exports earn 36 percent of the foreign exchange. Its labor productivity is 70 percent above the national average of the entire industry.

Keeping abreast of need of both domestic and foreign markets, Shanghai's textile industry guides its efforts toward the development of "superior fine new" products. While expanding the production of high- and medium-grade products of superior and fine quality and increasing the variety of high quality new products, it has turned out a generation of products at the world's advanced level which are well received at home and abroad. These enrich the lives of the people and help expand export to foreign countries. Today textiles account for 44 percent of Shanghai's export. The textile industry of Shanghai has chosen a road of cost efficiency and sustained growth.

#### But What Are the Secrets of Its Success?

In summing up the experience of the industry, a leading comrade of the city Bureau of Textile Industry says: "Shanghai's textile industry places its priority on science and technology as well as high quality products. It cannot develop new varieties and improve product quality without science and technology. In a word, it takes science and technology to develop its production."

The scientific research and technological innovations achieved by Shanghai's textile industry are both fruitful and practicable. A total of 860 out of more than 20,000 technological innovations it has worked out between the downfall of the "gang of four" and the end of 1980 are very important and valuable. In scientific research, 32 of its 258 successful items have received awards of important scientific achievement granted by the city of Shanghai while 111 other items were given successful scientific research awards by the Ministry of Textile Industry. These awards constitute one-third of all successful scientific research awards granted to the textile industry of the whole country. Over 80 percent of its important scientific and technological achievements have been put to practical use. These scientific and technological achievements when translated into a new productive force help sustain continued development of production. Every technological breakthrough ushers in a leap forward in production. For instance, the spindles of the spinning machine which have been improved 3 times are producing 45 kg of cotton yarn per 1,000 spindle/hours, the highest in the world's textile industry. Although there are now 16 percent fewer spindles in the cotton mills than in 1949, the cotton yarn production is 1.8 times that of 1949 because the per unit productivity has gone up. This is also true of the production of cotton cloth. The productivity per loom today is 1.7 times that of the preliberation days. Today, an air-jet loom produces 1.7 times that produced by a shuttle loom while a one gripper loom produces twice as much as a shuttle loom.

Extensive application of these scientific and technological achievements helps increase the variety and quality of the products. The chemical fibers industry which put to use 58 of these achievements in recent years has increased the production of various chemical fibers so much so that now it enjoys a better material base with which to reach new dimensions of product structure, better access to more variety of raw materials and a greater margin of profit. The gross output value of the cotton spinning industry and other industries which use cotton yarn went up from 4,821,000,000 yuan in 1966 to 8,901,000,000 yuan in 1979, a net increase of 4.08 billion yuan. Some 70 percent of this output value is attributable to the development of chemical fibers and 15 percent to improved processing. The designs and patterns of silk fabrics produced in Shanghai were rated the lowest by the 1977 All-China Conference on the Quality and Designs of Silk Fabrics. Since the establishment of the Shanghai Silk Fabrics Research Institute which bears the brunt of studying over 90 percent of the designs and patterns of silk fabrics produced in Shanghai, the variety of real silk fabrics has gone up from 41 to 82. The variety of new creations is up from 2 to 32 different brands. The per meter price of export has gone up from \$1.36 to \$4.10. They have also won national Awards of Red Flag for best designs and patterns.

Extensive application of these scientific and technological achievements has brought about a tremendous technical change to the entire textile industry of Shanghai. At the time of the liberation, the industry was equipped with facilities from the 1920's and 1930's, and some were even made in the 19th century. Outmoded equipment and backward technology led to labor intensity

and low productivity. The application of these achievements has helped spinning, weaving and dyeing to develop speed, efficiency, faster processing, continuous operations and automation. The quality of products and the efficiency of machines have grown tremendously. Take the workers of the glove factory for instance. In the past they worked with their hands and feet and had to count and memorize the stitches. After four different technological innovations since 1958, manual operations have given place to semiautomation and then complete automation. Now some factories are run by computers. Even though the number of staff and workers has slipped from 7,500 to 2,000, the annual output has jumped from 710,000 dozens to 6.22 million dozens.

The 27 experimental workshops and production lines set up by the textile system of Shanghai in the last 3 years to try out new technology and crafts have really changed the technological appearance of the city's textile industry. The rising level of technology presages an even more prominent role for science and technology as a productive force. The annual increase of the gross output value of Shanghai's textile industry between 1977 and 1980 went up as high as 10.45 percent. But comparing 1980 with 1976, there is a 48-percent increase in its gross output value and 68 percent increase in profit. Such a sustained high-speed increase is unprecedented. In a comprehensive analysis of the factors contributing to the rapid growth of the industry, the Shanghai Municipal Bureau of Textile Industry attributes 20.1 percent of the growth to expanded labor force and reformed labor organization, 63.44 percent to changes introduced in product structure, 8.02 percent to new technology and 8.44 percent to other factors. In reality, the structural changes in products are the end-result of new technology. Consequently, 71.46 percent of the growth is due to science and technology.

What accounts for the Shanghai's textile industry's spectacular success in scientific and technological achievements and economic gains? Their experience may be summed up as follows:

First, it repudiated the leftist approach and let science and technology lead production. After studying the actual conditions of Shanghai's textile industry, the leading comrade of the Shanghai textile industry organ is able to identify both the favorable and unfavorable factors of the industry. The favorable ones are the healthy state of all sectors of the industry, its strength in technology and readiness to cooperate. The unfavorable factors are lack of sufficient self-sustaining sources of raw materials, shortage of energy and inadequate factory grounds. In fact, the industry is making full use of its factory buildings, machinery and operating capability. Since it can no longer bank on overwork, physical exertion and more equipment for further development of production, its only alternative is to resort to advanced technology to speed up the pace of modernization. It repudiated resolutely leftist ideologies and methods which rely on "revolutionary" slogans, disregard science, keep production and technology poles apart, deny the usefulness of science and technology and the role of scientific and technical personnel, and launch rowdy campaigns for scientific research. It hopes to make science and technology the propelling force of production.

To provide strong leadership for scientific and technological work, the Municipal Bureau of Textile Industry has set up a second line of command headed by a deputy bureau chief and assisted by the responsible personnel of agencies in

charge of technology, machinery, capital construction, finance and material resources to coordinate the efforts of all the sectors concerned and administer the execution of scientific and technological programs. Conscientious leadership and popular support are what is necessary to insure successful implementation of the measures and programs for the development of science and technology. In the 1950's when cotton spinning and weaving dominated the textile industry of Shanghai, its scientific and technological sectors were already working on the production of polyamide fabrics. In the early 1970's their research switched to the development of medium- and long-staple fibers and knit coats as polyamide fabrics were coming out in huge quantities. Later, when the medium- and long-staple fabrics and knit coats were in production, they began to develop a new generation of fabrics, namely, long-staple polyester fabrics. In a word, scientific and technological work has been leading and bringing along production.

Second, starting from reality, it persistently kept science, technology and production together and pursued its own line of scientific and technological development.

Using the existing base, it focused its attention on upgrading and rejuvenating product quality and improving the technology of the old base. While day by day it improved the traditional technology, especially the improvement of the key sectors and equipment, it also pushed for new textile technology. Undaunted by difficulties, it kept working for solutions to problems of overall and trend-setting dimensions.

As for new technology from foreign countries, it selects only those items which befit the conditions of our country. However, it studies and improves any item which does not require heavy investment and is fuel-efficient, such as gripper looms and continuous-piece dyeing machines. It would not adopt any item requiring too much capital and energy even if it were comparatively automated.

Third, it paid a great deal of attention to the development of technology and turning the end-results of scientific research into direct productive forces.

To give priority to "qualifying testing," it has installed in recent years 27 experimental workshops (production lines) to establish the adaptability, adequacy and imperfections of the end-results of scientific research as applied to actual production so as to bring about required improvement before they are promoted for practical use. The items for promotion were provided with periodic inspections to see that funds are properly spent, materials properly used and products properly manufactured.

Fourth, it strengthened the foundation of scientific and technological work, established composite scientific research centers and a mammoth force of scientific and technical personnel.

Within Shanghai's textile industry system, there is a textile research academy at the bureau level and a research institute, office or testing factory for each company. Many factories have their own research outfits. These complete

a base for composite scientific research moderately equipped to carry on explorations, to tackle key problems, to conduct qualifying testing and to promote research achievements for practical application. There are over 3,100 professional research personnel. Of the 143 items which received awards from the city of Shanghai and the Ministry of Textile Industry, 38 percent represent the achievements of the research academy. To build a technical force, the Municipal Bureau of Textile Industry has reinstated and founded 2 colleges, 13 vocational colleges and 5 daytime vocational middle schools with 4,330 college students, and 1,622 middle school students. They represent 50 percent of the number of technical personnel in active service. Besides, there are various training classes for cadres who are actively employed.

Fifth, it studies and provides prompt resolutions to problems of policy affecting the development, scientific and technological work. The leading comrade of the Municipal Bureau of Textile Industry says: "Scientific research which probes the unknown, is bound to run into all sorts of difficulties and setbacks, but successes always come after failures. One who engages in scientific research should persevere to the end and work for success in failures. The leadership organ, of course, must give him both financial and moral support." Following last year's experiment with the decision-making power of the enterprises, the bureau leadership decided to set aside 10 percent of the development fund for scientific research. This year, it has decided to include the development of science and technology in its program for production development. These measures, the source of enthusiasm of the technical personnel and worker masses for scientific research and technological innovations, have helped the development of science and technology.

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## FOREIGN TRADE

### ROLE OF SPECIAL ECONOMIC ZONES DISCUSSED

Beijing GUOJI MAOYI WENTI [INTERNATIONAL TRADE JOURNAL] in Chinese No 1. 1 81 pp 40-44

[Article by Wang Shouchun [3769 1108 2797] and Li Kanghua [2621 1660 5478]: "A Brief Discussion of the Role of Special Economic Zones in Our Country"]

[Text] I.

In order to develop economic cooperation and technological exchange with foreign countries, the central authorities have decided to set up special economic zones by designating specific areas in Guangdong and Fujian Provinces, adopting relatively open measures of management and carrying out economic cooperation with overseas Chinese and with industrial and commercial circles in Hong Kong and Macao. At present, Guangdong Province has already designated specific areas, and special economic zones have been set up in Shenzhen and Zhuhai municipalities, while preparations are actively underway in Shantou municipality. Fujian Province has established Xiamen municipality as a special economic zone. Apart from expanding the export-processing industry, the special economic zones in our country must also set up scientific research areas; construct housing for scientists, investors, technical personnel, overseas Chinese, and compatriots from Hong Kong and Macao; and initiate other economic undertakings. Foreign citizens, overseas Chinese, and compatriots from Hong Kong and Macao as well as their companies are welcome to invest and build factories in the special zones and to set up various enterprises and undertakings. They are given favorable terms and provided with conveniences in production and living. Moreover, their legal rights and interests are safeguarded by law. Processing industries already set up include woollen mills, woollen shirt factories, clothing factories, hat manufacturing plants, plastic and leather plants, chemical ceramic plants, metal fittings plants, and radio plants.

The special economic zones set up in our country are closely related to the entire socialist economic undertaking; they are specific zones especially managed under the central administration and supervision of the state. In one respect they are similar to other economic zones in the country in that all sovereign rights within a special zone (including legislative, judicial, administrative, and economic rights) are controlled by our government. All units of enterprises and undertakings and personal activities within the special zones must abide by the laws of China. All administrative matters are handled by the Administrative Committee for Special Zones set up by our government. Moreover, the direction of economic development of these zones and the construction of enterprises and undertakings must be examined and approved by the

Special Zone Development Corporation set up by our government. Their economic activities are to be brought in line with the four modernizations. At the same time, commodities produced in the special zones cannot freely enter the domestic market but are subject to the management and restriction of our tariff and administrative laws and decrees governing import and export trade. This safeguards the independence and sovereign status of the special zones. These special economic zones differ from other economic zones in another respect: Their management measures are more flexible and open. Under state administration and supervision, investment of foreign capital is allowed, privately owned enterprises can be set up, and the system of wage labor can be carried out in the special zones. Moreover, the importation of construction materials, machinery equipment, raw materials, fuel, semimanufactured goods and transportation vehicles needed for self-use or production by enterprises in these zones as well as their export goods are favored with tax exemption. At the same time, simple and convenient measures are used to deal with the relationship between the special zones and foreign countries so as to facilitate the entry and departure of concerned personnel. The aim of these measures is to develop foreign economic relations, introduce foreign investment and advanced technology, and promote construction of the four modernizations in our country. Therefore, the special economic zones represent a form of foreign economic cooperation, a supplementary form based on equality and mutual benefit through contemporary and current practice utilizing foreign investment funds, technology, and management experience to develop our socialist economy. This will be beneficial in promoting the realization of the four modernizations in our country.

## II.

The setting up of special economic zones will play a definite and positive role in speedily developing our country's export trade, increasing foreign exchange earnings, expanding labor employment, introducing advanced technology, learning management experience, and promoting the local economy. These are discussed individually as follows:

### 1. Developing Export Trade

The state stipulates that production enterprises in the special economic zones must organize production according to the needs of the international market and that the products are to be designed especially for export. The central task and important role of the special economic zones in our country is to develop export trade. This is consistent with the goal and task of enterprises set up in Third World export-processing zones for processing production and exporting all their products. But it must be pointed out that during the first several years after the special zones are opened up, the export trade value may not be very great and may even be less than the import trade. This is because during these early years considerable investment in equipment and in all kinds of basic installations is necessary. This is inevitable in the early period of establishing the special zones and is to be expected. For example, the export value of the export-processing zones in Taiwan Province in the first year (1966) was \$270,000 while the import value reached \$2.02 million. In the second year (1967) the export value was \$7.97 million while import value was \$13.61 million. Even in the third year (1968) the export value was \$26.69 million while the import value was \$29.6 million; exports were still below the level of imports. However, due to the demand to provide all or an absolute majority of the products of production enterprise for export, the growth of the export trade was extremely rapid. For instance, the export value of the Bataan Export-Processing

Zone in the Philippines in 1974 was only somewhat more than \$4 million. This year the export value of the Bataan Zone was around 10 percent of the total industrial export value of the Philippines. The annual growth rate of industrial exports in the Philippines was about 25 percent while that of the Bataan Zone was as high as 75 percent, which became an important factor in the growth of industrial exports in the Philippines. Another example is the Masan Free Trade Zone in South Korea. Its export value in 1976 was \$303 million, a large increase over the \$175 million in 1975, or 3.9 percent of South Korea's total export value. It can be seen from the above results that the growth of export trade in export-processing zones is very rapid. From this, it can be surmised that the pace of export trade in our special economic zones will also be very rapid and will play a definite and positive role in promoting the development of export trade in our country.

## 2. Increasing Foreign Exchange Earnings

Increasing foreign exchange earnings is one of the goals in setting up the special economic zones in our country, but the special zones do not own all of the foreign exchange from their export trade. This is because most of the foreign exchange from production enterprises in these zones, is used to pay for the import of raw materials and other parts and components. Besides, if the profits of foreign enterprises and the wages for foreign staff workers are not spent inside the zones, part of them will be remitted abroad through foreign exchange. Still, the special zones can obtain some income from foreign exchange. This is mainly spent by foreign enterprises in the special zones in payment for Chinese raw materials, wages, land use by factories, factory space, taxes, rear services, water and electricity, and other expenses. These expenses must be paid for by foreign exchange and are income for our country. As seen from the results in the free export trade zones abroad, the increase in foreign exchange earnings will be fairly rapid. The ratio of foreign exchange earnings (to export value) will also continually increase. For example, the foreign exchange earnings of the Masan Free Trade Zone in South Korea was only \$240,000 in 1971 while in 1975 it reached \$75.29 million, an increase of over 300 times. The ratio of foreign exchange earnings in 1971 was 27.8 percent while in 1975 it reached 43 percent. Therefore, the special economic zones in our country will also play a definite role in increasing foreign exchange earnings for the state.

## 3. Expanding Labor Employment

Setting up foreign enterprises in the special zones will directly broaden the opportunities for labor employment. The zones will be even more capable of absorbing a large labor force when the enterprises are mainly the labor-intensive type of processing industries based on simple labor. For instance, factories and enterprises in the Bataan Export-Processing Zone in the Philippines absorbed over 25,000 staff workers. The number of staff workers employed in South Korea's Masan Free Trade Zone was 1,250 in 1971, but it reached 21,240 in 1973, an increase of 16 times. In 1977 it rose to 29,000. The number of staff employees in the export-processing zones in Taiwan Province was 1,215 in 1966, but it reached 78,000 in 1973, an increase of 60 times. From this, it can be gathered that the special economic zones in our country will play a positive role in expanding labor employment. Particularly in the early period of their establishment, the employment figure may increase by several times or even tens of times. This will be especially significant in resolving the employment problem of "youths seeking employment."

#### 4. Introducing Advanced Technology

The special economic zones will also play a definite role in introducing advanced technology. As foreign capital is used to build factories in the special zones, it is necessary first to produce export commodities that are internationally competitive. Relatively advanced technology and equipment must inevitably be adopted in order to maintain a competitive edge; otherwise the goal of foreign investment in factories in the special zones would not be reached. The Bataan Export-Processing Zone in the Philippines is an example. Foreign and joint capital built some relatively new types of industrial enterprises in the zone. The En-sai-de Company Ltd, for example, is a large enterprise for the production of automobile body parts in which Canada invested. It is a rather large, modern plant that can be considered the newest type of industrial enterprise in the Philippines. Japan's Ricoh Company Ltd set up a plant to assemble Ricoh watches in the area. It was the first of its kind set up in the Philippines, with a monthly export of 100,000 watches. Besides, the fiber-glass motorboat plant joint venture of the Philippines and Canada, the aluminum steel electric cable plant joint venture of the Philippines and Japan, the amplifier and radio plant joint venture of the United States and Japan, and the transmission fuel switch and valve plant in which Japan invested are all plants with relatively advanced technology which produce and export some products of highly sophisticated technology. At the same time, to produce export commodities that are internationally competitive, strict and thorough specifications and standardization are required in the production process to guarantee the quality of goods. Specifications and standardization of goods have long been neglected in our country's socialist construction and are an important and indispensable condition for the production of export goods in the special zones. We can learn the new techniques of such strict demands for commodity specifications and standardization in production operations. Moreover, as seen from export-processing zones abroad, most foreign enterprises either send technical personnel to these zones to train their workers or send selected technical personnel and workers from these zones to learn advanced production techniques abroad. We can raise our country's technological level through such production operations and technical training.

#### 5. Learning Management Experience

Capitalist management of enterprises has a dual character. In one respect it is a function of capital, and in the other it is a demand of large socialized production. We should refuse management methods that pursue surplus value and exploit the workers, but we must earnestly study the rich scientific management experience which is the scientific result of man's industrial civilization accumulated according to the demands of large socialized production. We allow foreign enterprises to have self-rights of independent management in the special economic zones and to employ management personnel of different nationalities at all levels. As seen from the conditions of export-processing zones abroad, most of the high-level management personnel of foreign enterprises are foreigners while most of the middle- and low-level personnel are local people. In South Korea's Masan Free Trade Zone, for instance, of the high-level management personnel, 97 are Japanese and only 14 are South Koreans. Of the middle-level management personnel, however 32 are Japanese and 271 are South Koreans. Of the management personnel at the basic-level, only 2 are Japanese and as many as 342 are South Koreans. From this, it can be gathered that quite a few people in our country will directly participate in various levels of management work in enterprises in the special zones. This will provide an important opportunity for us to learn

from foreign management experience and to raise our own management standards. Even if foreign enterprises do not employ our personnel to participate directly in management, these modern enterprises will in any case be set up in the special economic zones in our country. As they manage their enterprises, they will inevitably influence management in our country through various channels and forms of contact and may enable our management personnel to gain valuable experience in scientific management of enterprises.

#### 6. Developing the Local Economy

The enterprises set up in our special economic zones are primarily light chemical, electronics, instrument and meter, mechanical electric and other processing industries. These enterprises are basically export-processing industries which utilize imported machinery equipment, raw materials, and parts and components to carry out group processing assembly and which export the manufactured goods. We encourage enterprises in the special zones to use machinery equipment, raw materials, parts and components and other materials produced by our country, for which we will give favorable terms in prices and other ways. Thus, the special economic zones may first promote the growth of industries that supply raw materials, parts and components needed by enterprises in the special zones. If Chinese raw materials, parts and components are to fill the orders of enterprises in the special zones, they must be competitive in the international market. In other words, a stable supply must be guaranteed, the quality must meet the specifications and standardization required by modern production, and the prices cannot be higher than the international market level. This means that the concerned production enterprises must continually transform their production technology, improve management and administration, upgrade the quality of products, and lower production costs which will inevitably advance the development of our raw material and other local industries. The construction of the special economic zones will no doubt also promote the production of installations for electric power, water supply, highways, communications, and harbors as well as the construction of facilities in everyday life such as shops, hospitals, theaters, schools, and residential housing in the special zones and neighboring areas. Construction of the special economic zones will also increase local revenues and the people's purchasing power, thereby bringing prosperity to the manufacture of local consumer goods and promoting active market business. Thus, the special economic zones will also play a positive role in developing the local economy.

In short, it can be seen that the setting up of the special economic zones in our country is a supplementary form that will develop our socialist economy and promote construction of the four modernizations. We should not underestimate or ignore the role of the special economic zones. Of course, overestimation and blind optimism are also erroneous. We must soberly recognize that the industries set up in the special economic zones are mainly foreign, export-processing industries whose manufactured goods are totally dependent on the international market. Therefore, the economic laws inherent in capitalism will have an effect on the enterprises in the special economic zones. We should soberly reckon with this serious condition at the same time we activate the role of the special economic zones.

#### III.

Adopting the form of special economic zones and carrying out economic cooperation with capital of foreign countries, overseas Chinese, and industrial and commercial circles of Hong Kong and Macao are new to us. We still lack experience in operating

these zones well and in according them their proper role; we still need to find out and learn from practice. In order to operate the special economic zones well, the following four problems deserve our attention:

#### 1. Unifying Ideological Understanding

The special economic zones are a way to develop our country's foreign economic cooperation. The utilization of foreign capital and of advanced science and technology to construct these zones and to develop our socialist economy in accordance with the principle of equality and mutual benefit under our government's supervision and management is advantageous to the construction of the four modernizations and is in keeping with the fundamental interests of the entire people. Only with a unified understanding can we single-heartedly pool the wisdom and efforts of everyone, operate the special economic zones well, and enhance their positive role.

#### 2. Formulating Plans and Programs

It is necessary to formulate promptly the details of program to build each special economic zone according to its own characteristics in combination with the demands of construction of the four modernizations. Not only must the course of development, scope, and layout of the special zones as well as the types of enterprises and undertakings be set up in accordance with the requirements, but there must also be planning for water and electricity, transportation, telecommunications and other facilities for production and daily life. With such detailed programs we can first gain understanding and bring the economic activities of the special zones into line with the construction of the four modernizations methodically and in a planned manner. At the same time, investors can be made to feel reassured, which will aid them in deciding on the direction and scope of investment as well as in formulating plans to develop their enterprises. This will more effectively enhance the role of the special economic zones.

#### 3. Formulating Administrative Regulations and Detailed Rules for Implementation

In order to attract foreign capital to set up various enterprises in the special zones, there must be a set of laws and decrees to safeguard investment, legal rights and interests. Here, the principle of mutual benefit is very important. The rules and regulations stipulated by this principle should be in keeping with current provisions in the world and acceptable to foreign capital, beneficial to investors as well as ourselves. Only in this way can we more effectively attract investors to set up enterprises in the special economic zones and utilize foreign capital and advanced science and technology to serve our construction of the four modernizations.

#### 4. Providing Favorable Terms

In addition to providing the necessary conditions of political environment, geographic location, communications and electric power, providing favorable terms is a key to operating the special economic zones well. This is because favorable terms are an important prerequisite to investors obtaining steady profits, a question they are concerned about. In providing favorable terms, apart from referring to international practice and the provisions of export-processing zones in the Third World, we should keep in mind the characteristics of the special zones in our country which are neighbors of the Hong Kong and Macao areas. Thus in determining favorable terms such as the

time limit and fee for the use of land in the special zones, the reduction or remission of various types of tax revenue, the standard of wages for staff workers, and the entry and departure of personnel, there is the question of comparability with the Hong Kong and Macao areas. We must do a good job of overcoming our shortcomings with our strong points and provide even more attractive terms for foreign capital. For example, the income tax rate on profits for enterprises in special economic zones is set differently in different countries. Singapore is a country with a high tax rate which collects a 40 percent income tax from local enterprises, but in order to attract foreign investment it has stipulated that foreign capital is exempt from income tax for 10 years. In neighboring Hong Kong, the income tax rate on profits is set at 17.5 percent. We set it as 12 percent and we can reduce or remit it according to the circumstances. Countries in general follow a policy of low prices for land use. Land prices in Hong Kong are high and are a heavy burden for investors. Our fee for land use, housing property tax, and management fee should be set in more favorable terms than in Hong Kong. Furthermore, with regard to wages for labor, the standard of living is relatively high in Hong Kong and so is the cost of labor. Our standard of living is relatively low, so wage levels can be lower than in Hong Kong. However, ours is a socialist country which must safeguard improvement of the life of the workers. In short, according to our country's characteristics, the favorable terms we provide should be even more attractive in order to bring foreign capital in promptly to set up large factories, speed up the pace of building the special economic zones, enhance the effective role of these zones, and promote the growth of our socialist economy.

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## FOREIGN TRADE

### BRIEFS

**XINJIANG CARPET EXPORTS**--Urumqi, 21 May (XINHUA)--Xinjiang Uygur Autonomous Region in northwest China has signed export contracts for a total of 130,000 square meters of carpets so far this year with firms from nine countries and regions including Britain, Belgium, Sweden and the United States, according to the regional Foreign Trade Bureau. Xinjiang exported 1.76 million U.S. dollars worth of carpets during the first quarter of this year, 50 percent of the annual target. Xinjiang Carpets, with a history of 1,900 years, are famous for their lively native styles. The Xinjiang Foreign Trade Bureau began exporting carpets directly to overseas firms in January 1980. Previously, all foreign business transactions were done through the Ministry of Foreign Trade. The bureau now maintains business ties with 60 firms in 20 countries. [Text] [Beijing XINHUA in English 0701 GMT 21 May 81]

**MACHINERY, EQUIPMENT EXPORT FIGURES**--Beijing, 24 May (XINHUA)--The total volume of China's exports of machinery and equipment in the first four months of this year was 69.7 percent more than in the like period of last year, according to the China National Machinery Import and Export Corporation. The figure was disclosed at the national conference on measures to increase output of durable consumer goods which opened here today. In 1980, China exported, to over 100 countries and regions, machinery and equipment totalling 720 million U.S. dollars, accounting for four percent of its annual export volume. According to the conference, China will make a better study of the demand of the international market, improve quality and produce a greater variety of products. Attention will be paid to assimilating the characteristics of China's traditional arts and crafts in designing products. Both high-grade products and products that have a mass appeal will be manufactured. [Text] [OW260554 Beijing XINHUA in English 1244 GMT 24 May 81]

**CARPET IMPORT, EXPORT CORPORATION**--Beijing, 25 May (XINHUA)--The Beijing Carpet Import and Export Corporation was formally established here today as a branch of the China National Native Produce and Animal By-Products Import and Export Corporation. Liu Bingyan, manager of the new corporation, said it will handle the business of hand-made woolen, silk and cotton carpets and tapestries of the "Tiantan" (the Temple of Heaven) brand produced in Beijing, the Inner Mongolia Autonomous region, the Ningxia Hui Autonomous region, and the provinces of Shaanxi, Henan, Heilongjiang and other areas. The corporation will also engage in processing carpets with customers' materials or according to customers' designs, compensation trade and joint ventures. Liu Bingyan said his corporation would like to expand cooperation with foreign firms. The export volume of Beijing Carpets, which are famous for their exquisite weaving and elegant designs, reached 24 million U.S. dollars last year, 22 percent more than in 1979. [Text] [Beijing XINHUA in English 1605 GMT 25 May 81]

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## GENERAL

### GENERAL CONSTRUCTION BUREAU DECISION ON STRENGTHENING LABOR PROTECTION WORK

Beijing JIANGZHU [BUILDING CONSTRUCTION] in Chinese No 4, 1981 pp 1-2

[Article: "Decision of State General Construction Bureau on Strengthening Labor Protection Work" (9 Apr 1981)]

[Text] Since the Third Plenum of the 11th Party Congress, the building construction enterprises have done a great deal of work to strengthen leadership in labor protection work in accordance with the series of important directives from the Party Central Committee and the State Council. They have taken the first step to change the chaotic situation in which people assume no responsibility, follow no rules and act recklessly. They have basically put a stop to vicious accidents and conspicuously cut down major accidents with the monthly frequency of injuries declining to about 4 per thousand. However, the situation regarding injuries and deaths of workers has not yet been fundamentally reversed, and the number of injured and killed is still greater compared with 1979 in a number of localities. The people must give serious attention to this state of affairs. Safety in production and a civilized method of production is an important principle of socialist enterprise management. We must make a clean sweep of the "leftist" ideological influences and take effective measures to cut down injuries and deaths to a considerable degree, to reduce the monthly frequency of injuries to less than 3 per thousand and to bring dust and gas under control so as to bring about a new situation regarding labor protection work. For this reason, we have made the following decisions:

First, strengthen leadership in labor protection work. All units must take safety as a matter of primary importance and place it on the agenda of the day. In accordance with the relevant directives of the Party Central Committee and the State Council, they must grasp the work tightly and effectively. They should strengthen political-ideological work, and teach the workers to observe regulations and labor discipline and act strictly according to the objective laws. They should put an end to the practice of directing and operating against regulations. They should see to it that those in charge of production ensure safety in production, that both production and safety are ensured simultaneously when planning, arranging, checking, summing up and evaluating, and that the relationship between safety and production is handled correctly. [They must] popularize advanced experiences vigorously, launch mass activities extensively to foster accident-free construction brigades and accident-free teams and groups, and bring the role of trade unions and YCL organizations into play in jointly achieving labor protection and ensuring the safety and health of workers. When injuries or deaths occur, all units must adhere

to the principle of "not overlooking three things" (accidents, the cause of which has not been analyzed, those responsible for the accidents and the masses who have not been taught a lesson, and cases where preventive measures have not been taken.) They must seriously investigate and deal with cases of injuries and deaths and must not be indulgent towards such cases.

All of the building construction bureaus, engineering bureaus and large enterprises in various provinces, municipalities and autonomous regions should set up full-time labor protection organizations and provide them with an adequate number of competent labor protection cadres and minimize transfer of these personnel as much as possible.

Second, seriously implement the systems of managing safety in protection. The system of responsibility for safety in production should be brought to the fore and grasped effectively to define the duties of leading cadres, the construction departments and the different types of personnel. At the same time, the system of inspecting safety in production should be grasped effectively; in addition to regular inspections, the safety measures enforced in the process of production should be inspected by the masses several times a year; problems should be solved upon their discovery. For the present, the focal points to be inspected are: whether preparations are completed for the safety activities arranged nationwide; whether the major hidden troubles discovered since the start of the "hundred accident-free days" last year have been rechecked and dealt with. Inspection should be aimed at actual results and not as a mere formality.

Third, strictly implement the technical measures for safety. All construction projects must be provided with technical measures for safety and, where such measures are not provided, projects may not be started. All districts and enterprises should take effective measures in light of actual conditions to eliminate the "common ailments" of safety in protection and concentrate on 10 measures to cope with the particularly serious situation regarding injuries and deaths caused when workers working high above ground fall or are hit by objects: (1) Use safety helmets, safety belts and safety nets according to provisions. (2) Provide complete sets of effective protective equipment for technical facilities. (3) Provide spacing safety devices for hoisting equipment like tower cranes, forbid "defective" operations, overload work and maintenance of equipment while in operation. (4) Install electric lines in conformity with the provisions laid down by local electric bureaus, and connect all electrical equipment with zero ground. (5) Fix switch-off devices against leakage on electrical power machinery and hand tools. (6) Ensure that scaffolding materials and building of scaffolds conform with the stipulated requirements. (7) Ensure that all kinds of wind bracing ropes and equipment conform with the requirements of rules. (8) Reserve space for entrance to staircases and elevators and provide protective facilities in all building projects under construction. (9) Strictly forbid barefeet or the wearing of high-heeled shoes or slippers when entering construction sites, and forbid the wearing of hard-sole, spiked, or slippery shoes or boots when working, high above ground. (10) Set up warning signs for overhanging cliffs, steep ridges, and red lights as warning in the night, at all construction sites. Where the abovementioned provisions and relevant safety regulations are violated, making it possible to cause injuries or deaths, construction workers may refuse to work. If accidents occur as a result of forcing the workers to work at the risk of their lives, those directly directing the operations shall assume administrative or legal responsibility.

Fourth, draw up plans for dust and gas protection, improve working conditions according to plan, and prevent outbreak of occupational diseases. The current focal points of prevention and control are concrete mixing stations, woodwork shops, asphalt processing points, stone work and paint spraying. The target is to ensure that the health standards set by the state are reached at separate stages and in separate groups before 1985. Where dust and gas hazards have occurred, medical treatment must be given.

Fifth, extensively conduct propaganda and education concerning labor protection. Through propaganda and education, leading cadres and the vast number of staff and workers should be impressed with the importance and necessity of improving labor protection, and imparted with a scientific knowledge about safety in production and the civilized way of production so that they will conscientiously observe the labor protection decrees, rules and regulations. Training should be intensified for staff and workers in general and new workers in particular, and technical knowledge of safety should be included as an important feature of training. In the coming 3 years, emphasis should be laid on training by rotating labor protection cadres, scaffold workers, electricians, welders, stokers, dynamiters, lift operators, and drivers of large mechanical and motorized vehicles. The General Construction Bureau will conduct comprehensive labor protection courses for training the department and section chiefs in charge of labor protection from the construction bureaus of various provinces, municipalities and autonomous regions and from some prefecture and municipal construction bureaus. At the same time, several specialized technical training courses on mechanical and electrical protective equipment and on prevention and control of dust and gas will be conducted selectively. Other staff and workers shall be trained by competent bureaus and enterprises. Those receiving training will be examined after completion of their training courses. Those who have failed to pass the examination will be barred from working independently, and cadres will have to make up the missed lesson.

Sixth, carry out scientific research on labor protection. All localities should, in light of their actual work, grasp prototype safety devices for mechanical and electrical equipment; use and improve protective devices like safety helmets, safety belts, and safety nets; probe into the climate in different regions, projects, workers' age, sex, types of work, the fixed patterns of accidents and the preventive measures; study the best method to prevent and control dust and gas and the problem of safety of new technology and new equipment. At the same time, they should probe into the question of restructuring the man-hour system and retirement system for staff and workers. The above problems should be investigated selectively by various localities. Beijing, Tianjin and Shanghai municipalities and Liaoning and Sichuan provinces should be the first to carry out the program and produce preliminary results before 1983.

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